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INTRODUCTION

In recent decades the more industrialized, democratic societies have experienced a number of dramatic changes in socio-demographic behavior. More directly, unprecedented shifts in family formation such as increased cohabitation, divorce, and non-marital fertility, a rising age at first childbirth and first marriage, and fertility declines too well-below population replacement levels, all these features were described as a 'Second Demographic Transition' by Dirk Van De Kaa and Ron Lesthaeghe.

In present research the author investigates the change of fertility development in selected countries, which include western countries of Sweden and the United States of America and post-socialist countries such as the Russian Federation, the Czech Republic, the Republic of Kazakhstan and the Republic of Latvia. The countries are distinguished by two main groups of western and post-socialist countries in order to describe and point out the main characteristics of the differences in the fertility development among two groups.

Sweden as a leader in the development of the features of the 'Second Demographic Transition' and to some extent slightly later the USA started important changes in the 1960s while the post-socialist countries experienced the radical change in socio-economic settings after the collapse of socialism. From the mid-1960s of the 20th century, the consequences of social and economic developments in the West led to an increase in the importance of factors (increased female labor force participation, longer education, rising unemployment, etc.) conductive to low fertility rates in many Western European and North America countries. In contrast, during the same period of societal conditions in the state socialist authoritarian and centrally planned regimes had developed an environment that was comparatively favorable for early and relatively high rates of childbearing (Frejka, 2008).

Western fertility trends occurred in the 1960s were characterized by the dramatic transformation of family patterns towards less committed and more fragile couple relationships, by the later and less likely transition to parenthood, and by the sharp reduction of higher-order births currently taking place in Europe and European-origin populations (Lesthaeghe, 1995).

When the state socialist regimes collapsed in Central and Eastern Europe, the entire societal and institutional system was transformed. Incentives and constraints related to childbearing suddenly equally ended and were replaced within a period of a few years by a new social, economic

and welfare system that is based on the principles as institutional systems in western societies. During the 1990s and the early 21st century, young people of prime childbearing age adjusted to these new conditions, which were mirrored by changes in family formation, partnership relationships and patterns of childbearing (Frejka, 2008).

Countries investigated in the thesis (Czech Republic, Russian Federation and Republic of Latvia) are the post-socialist countries and represent the Central and Eastern Europe. The Republic of Kazakhstan as a special country that geographically belongs to Europe and Asia presents the form of demographic development in Central Asia.

Sweden is a well-known as the forerunner of the 'Second Demographic Transition'. The United States stands for western demographic behavior experiencing some special features (higher teenage fertility, important race disparities and an important share of immigrants).

Western fertility trends up to the second half of the 20th century were experienced by the post-socialist countries after the collapse of state socialist regime. Some circumstances of the western fertility patterns from 1960s through 1990s were similar to what happened in post-socialist countries in the 1990s, therefore the analysis of western developments is justified and relevant because analogous conditions emerged in post-socialist countries after the transformation from socialist planning economy to the market economy of the capitalist form of management.

An increase in fertility in western countries in the post-war period up to the beginning of the 1960s (baby-boom) was due to realization of desired childbearing (including compensation factor) along with sustainable economic development the modern welfare system established. As a result many costs of children were fully or partly covered by the state, thus lowering costs of childbearing that became an important factor in sustaining the baby-boom through 1950s and into the early 1960s. Fertility decline occurred in 1960s and 1970s and the persisting sub-replacement fertility of the 1980s and 1990s were accompanied by a number of interacting factors. According to Frejka the postponement of marriages and births from the 1960s was due to a) an unprecedented, increasing need for large proportions of the population to acquire more than a basic education; b) high and increasing labor force participation rates of women; c) increasing roles and responsibilities of women.

In the latter decades of the 20th century the conditions for childbearing became more difficult in the West. It was not easy to find employment and to establish a household. At the same time the spread of modern reliable means of contraception, free access to safe and legal induced abortions, substantial changes in socio-cultural values, norms and attitudes concerning family formation and childbearing, as well as relatively weak family policy were significant in generating the fertility levels and trends of the late 20th century (Frejka, 2008). These latter factors observed in western countries were to some extent similar to those that occurred in the post-socialist countries in the 1990s after the collapse of state socialist regime.

Fertility developments in selected countries (Czech Republic, Russian Federation, Republic of Kazakhstan, Republic of Latvia, Sweden, and USA) occurred under different socio-economic conditions, however changing over time. On the other hand, they have recently started the process

towards convergence in economic settings (including changes in cultural norms and values). The goal of the research is to investigate the differentiation of fertility development and the circumstances impacted on it during 1999 – 2007 period in above listed six countries.

The main differences and similarities in recent fertility development will be addressed through detailed analysis of fertility and conditions for childbearing. To implement the goal of the research the following objectives were set:

to describe the basic stages of fertility development in the past;

to analyze changes in overall fertility and fertility by age structure and birth order;

to identify cross country differentials;

to analyze changes in family composition;

to investigate extramarital fertility;

to identify cross country differences in extramarital fertility development.

Additionally in order to get the results from the research the following hypotheses will be tested:

1. Changes in the value of total fertility rate in selected countries are the impact of improvement in socio-economic conditions for individuals;

2. Delayed childbearing started first in western societies is influenced by transformation in social values, especially in child and family values. Increasing the mean age of mothers at 1st child birth has become a normal trend observed in selected countries. In addition, rose in the mean age at marriage influenced on marital fertility that was significant in overall fertility development;

3. The proportion of extramarital live births had not a considerable impact on changes in overall fertility. An increase in number of children born out-of wedlock is related to the increase in the number of single mothers and cohabitating couples;

4. Fertility trends occurred in the societies of western countries are to some extent repeated in the post-socialist countries. Convergence in changes of socio-economic conditions and cultural values in post-socialist countries is obviously seen in recent decades.

1. THEORETICAL PART

1.1 Overview of literature

The issues on fertility behavior of women, including increasing the mean age of mothers at first birth, extramarital births and transformation of family values are the main topics for discussion and research among not only demographers, but also among politicians and civilians planning their future development.

During the research the significant amount of literature and sources are used. Theoretical background on the topic of the research was based on several works of the demographers and other scientists. For example, the recent decline in fertility in industrialized and less developed countries described in Watkins's paper 'The fertility transition: Europe and the Third World Compared' (Watkins, 1987); Kohler, Billari and Ortega's research 'Low Fertility in Europe: Causes, Implications and Policy Options' (Kohler, Billari and Ortega, 2006); Jesus and Remo's article 'Patterns in the delay and recovery of fertility in Europe' (Jesus and Remo, 2007) and Frejka's paper 'Determinants of family formation and childbearing during the societal transition in Central and Eastern Europe' (Frejka, 2008).

The issue on women social position are clearly presented in Hilgeman and Butts's article 'Family Policy, Women's Employment, and Below-Replacement Fertility in Developed Countries: A Hierarchical Bayesian Approach' (Hilgeman and Butts, 2004); Bernhardt's article 'Fertility and Employment' (Bernhardt, 1993); McDonald's papers 'Gender Equity in Theories of Fertility Transition. Population and Development Review' and 'Gender Equity, Social Institutions and the Future of Fertility' (McDonald, 2000).

Additionally, the findings of Lesthaeghe and Van de Kaa used in the research too, including Van de Kaa's work 'Demographic Transitions' (Van de Kaa, 2008), Lesthaeghe's articles 'Postponement and recuperation: Recent fertility trends and forecasts in six western countries' (Lesthaeghe, 2001), 'Europe's demographic issues: fertility, household formation and replacement migration', 'The Unfolding Story of the Second Demographic Transition' (Lesthaeghe, 2010), in eds Surkyn 'New Forms of Household Formation in Central and Eastern Europe: Are they related to newly emerging Value Orientations?' (Lesthaeghe and Surkyn, 2002), in eds Neidert 'Second Demographic Transition in the United States: Exception or Textbook Example?' (Lesthaeghe and Neidert, 2002).

The literature on political and social measures taken in selected countries has given from the special web pages on family issues and international organizations interested in this topic. Moreover, theoretical framework on family and population policy was given by the Gauthier's work 'Family policies in Industrialized countries: Is there convergence?' (Gauthier, 2002); Wennemo's research 'Sharing the Cost of Children' (Wennemo, 1994). In addition to these literatures the papers and articles of others researchers were taken into account.

Fertility development in selected countries was found in different sources ranging from articles to the special editions in various web pages. Information and data on population history and fertility development of western countries were widely available in the libraries and web pages. Moreover, in case of Sweden, the significant amount of literature used in the research. Particularly, in Hoem's paper 'Entry into motherhood in Sweden: the influence of economic factors on the rise and fall in fertility, 1986-1997' (Hoem 2000); Andersson's articles 'Demographic trends in Sweden: An update of childbearing and nuptiality up to 2002' (Andersson, 2004), 'A review of policies and practices related to the 'highest-low' fertility of Sweden' (Andersson, 2008); Olah and Bernhardt's work 'Sweden: Combining childbearing and gender equality' (Olah and Bernhardt, 2008).

Population history of the United States can be found in the Klein's book 'A Population history of the United States' (2004). In addition, there are several works and papers which contain deep information on fertility development, such as the Shrestha's article 'The changing demographic profile of the United States' (Shrestha, 2006); Plotnick and Evans's paper 'Seven Decades of Nonmarital Childbearing' (Plotnick and Evans, 2004).

According to the topic on changing of fertility patterns in the post-socialist countries considerable works and researches are dedicated. The findings of Sobotka were useful in the description of the fertility development in post-socialist countries: Sobotka's article 'Ten years of rapid fertility changes in the European post-communist countries. Evidence and interpretation' (Sobotka, 2002), 'Re-emerging diversity: Rapid fertility changes in Central and Eastern Europe after the collapse of the communist regimes' (Sobotka, 2003), in eds Stastna, Zeman, Hamplova and Kantarova 'Czech Republic: A rapid transformation of fertility and family behavior after the collapse of state socialism'.

At the same time a literature on the topic of fertility change in the Russian Federation is widely spread. For instance, Vishnevsky's paper 'Family, Fertility and Demographic Dynamics in Russia: Analysis and Forecast' (Vishnevsky's, 1996); Zakharov's article 'Russian Federation: From the first to the second demographic transition' (Zakharov, 2008).

Unfortunately the amount of literature concerning fertility development and family policy in the Republic of Kazakhstan and Latvia are limited. However, some researches and papers dedicated on changing in fertility patterns and family policy in Kazakhstan were found in Musabekov's article 'Child and Family Welfare: Trends and Indicators in the Republic of Kazakhstan'; Ashimbayev's et al. research 'Sovremennaya Demograficheskaya Situacia v Kazakhstane' (Ashimbayev et al., 2004)

Fertility development and family policy in Latvia are described by the group of demographers and researchers. For instance, in Kaupuza's paper 'Family policy in Estonia and Latvia. A Comparative review of state support to families with children' (Kaupuza, 2005); Aidukaite's research 'Reforming family policy in the Baltic States: The views of the elites' (Aidukaite, 2006).

The literature on issue of non-marital childbearing in selected countries was found in several works including the papers of Keilman 'Recent trends in Family and Household. Composition in Europe.'; Sprangers and Garssen 'Non-Marital Fertility 'in the European Economic Area (Sprangers and Garssen, 2003); Carmen 'Nonmarital Childbearing: Trends Reasons, and Public Policy Interventions' (Carmen, 2008).

The issue of fertility in the demographic perspective of the nations is still remaining the crucial factor in the development of the nation. The literature presented in the research was available in different sources. However, the books and researches on this topic are not widely spread for the post-socialist countries, especially for Kazakhstan and Latvia. The limited number of literature has to encourage the demographers and scientists (especially) to pay high attention to that; it might be an important factor in the process of family planning, i.e. in the building the prosperity and welfare in the nation.

1.2 Theoretical background and historical overview of fertility decline

1.2.1 Fertility decline and transition theory

Fertility decline started first in Western Europe society. According to demographers the earliest sustained fertility transitions at the national level occurred in France and probably in the United States (Watkins, 1987).The drop in marital fertility (primarily among rural women) observed in France in the late eighteenth century, apparently associated with the French Revolution. However, changes in fertility behavior also observed in the US on the eve of the Civil War. In some states more than 15% of married women born between 1861 and 1865 were childless at age 50 (Watkins, 1987). Moreover, transition from high to low level of fertility spread with the industrial revolution. Transitions began first in the Northwest of Europe and followed later in the periphery of Central Europe and Mediterranean countries, with Ireland and Albania following even later.

In non-western countries, time series of fertility measures were too rare before 1960, with the exception of Argentina, Uruguay and Chile whose populations are largely of European immigrants and descendants. Fertility decline was evident in a few city states (Hong Kong, Singapore) and island populations (Mauritius, Fiji) in the mid 1960s; shortly thereafter in many countries with Chinese-origin populations; and then in many parts of Latin America. A sustained decline in marital fertility has not yet begun in parts of North Africa and the Middle East, in Pakistan and Bangladesh, and in sub-Saharan Africa (Watkins, 1987).

The complex of demographic change, called today first demographic transition, has often been described in over-simplified terms and has spawned many disputes regarding its applicability to currently less developed nations, or even to the demographic history of the currently developed nations. Because the ‘demographic transition’ from high to low levels of mortality and fertility coincided, more or less, with the economic transformation of the currently developed nations, the empirical generalization linking economic development with demographic transformation has gained wide acceptance.

The development of the idea was developed on a 1909 description of the process by Adolphe Landry (1934) and refined by Warren Thompson (1929). Frank Notestein was probably responsible for introducing the term ‘transition’ in 1945 (United Nations, 1979). He argued as countries became industrialized, the standard of living increased and health conditions improved, thus causing mortality decline. Changes in fertility tended to lag behind, but eventually fertility fell to almost the level of mortality. This delay reflected the time required for the population to realize that mortality had declined and for the social institutions supporting high fertility to change in response to new industrial conditions. Prolongation of life is a universal value, but in pre-transition period societies, high fertility is valued as well. Thus, it was much easier to introduce changes that would reduce mortality than it was alter pro-natalist values that supported high fertility. Ultimately, industrialization and urban patterns of living resulted in higher costs and lower benefits of children and tended to erode pro-natalist values.

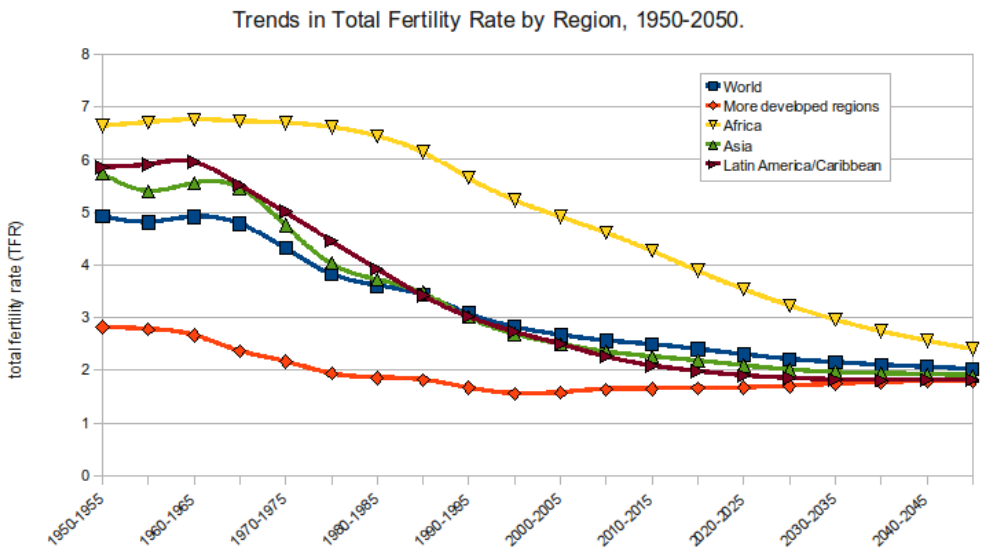
Among the criticism of the theory is that it is merely a description of the demographic history of European countries. The theory does not indicate how much development is required and for how long fertility decline will lag behind mortality decline, given a certain pace of development. Moreover, although the theory correctly describes the transitions for many developed nations, there were countries, such as France, where fertility may have declined before there were substantial declines in mortality.

Even the description were completely accurate as applied to developed countries, there is no certainty that it would apply to the currently less developed nations in which the social and economic conditions are vastly different. This application of transition theory implicitly assumes that all countries will face the same demographic conditions over time, an assumption that is unlikely to be correct (United Nations, 1990).

1.2.2 Recent trends in fertility behavior and Second Demographic transition

According to the UN data the population of the world grew from 2.5 billion people in 1950 to about 6.0 billion in 2000 and to 6.9 billion in 2010. However, in the mid-1960s, the annual growth rate was slightly higher than 2%, but in the mid-1990s this rate dropped to about 1.5% (currently 1.2%), with further declines expected to continue beyond 2050. The trends towards falling population growth rate were primarily caused by the considerable change in fertility behavior and family formation across the world, i.e. unprecedented drop in the global level of total fertility rate was the main reason (Figure 1).

Figure 1 – Trends in total fertility rate by region: 1950-2050



Source: www.commons.wikimedia.org

According to United Nations Population Division in the past 60 years, the world's TFR has halved, from around 5.0 live births per woman to 2.5 live births in 2010, and it is expected to drop to 2.1 by 2050. All regions of the world have experienced declines in fertility rates, which have

fallen in the least developed countries from about 6.6 live births per woman in the early 1950s to about 4.8 live births in 2000, 4.5 in 2010. As a consequence the world average conceals large differences across countries and regions. While some countries have been experiencing below replacement level since the middle of 1970s or before, others displayed fertility levels above replacement until recently, but observed large reductions rather quickly

The rapid change in the value of TFR occurred in most industrialized countries across the world after the baby-boom mostly accompanied by changes in fertility behavior and family formation. By Lesthaeghe point of view, the family changes since 1960s were primarily caused by three major components of change. First, the already upward divorce trend accelerated considerably. Second, the baby-boom came to an end, i.e. fertility declined at all ages and marriage durations simultaneously. These trends coincided with the contraceptive revolution, based on new hormonal contraceptives and the rediscovery of the intra-uterine device. Third, the decline in ages at marriage, which had started between 1880 and 1920 in most western countries, stopped (Lesthaeghe, 1995).

Moreover, increasing proportions of women in industrialized countries are not only having a smaller number of children but having them later in life (especially first child). As fertility decline in most countries, the mean age of mother having the 1st child has been rising since the 1970s, although the largest increase has taken place in recent decade. This trend is sometime called postponement transition that includes also a delayed start of professional life, marriage etc (Billari, 2005).

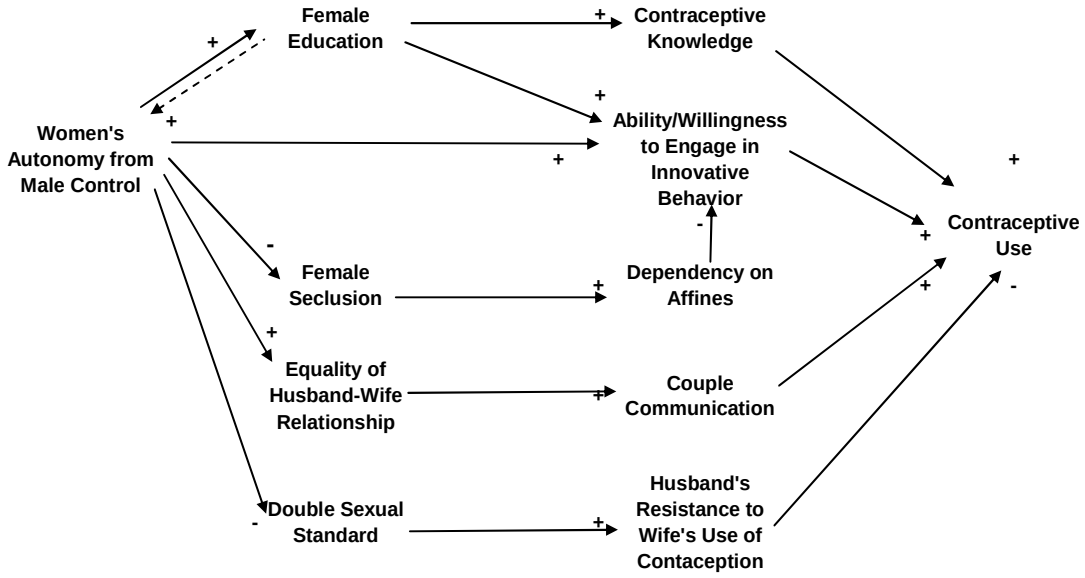
Most demographers agree that delayed childbearing is largely a function of delayed marriage patterns that widely spread across the countries in recent decades. However, many people who delay getting married, especially in western societies may be living in common-law marriages, they are not necessarily less exposed to sexual intercourse unions. By Ram opinion the persons living in common-law unions are more like to delay having children and not produce as many children as legally married couples, because they are not as certain about their conjugal status (Ram, 2003). Moreover, delayed childbearing has increased its popularity in less developed countries too, and it still falls at the lower end of the reproductive life cycle.

Usually substantial delays in the initiation of motherhood have been linked with ultimate childlessness. According to Ram, postponing childbearing until later ages can have an adverse effect on the physiological potential of women to conceive. By the other words the longer a woman remains childless, the less inclined she will be to have a child. Either she gets involved in activities, which are incompatible with lifestyles involving children or she gets used to living alone. However, the increase in childlessness in industrialized countries was relatively modest. Japan is a classic example where women start childbearing at a much later age, but fewer remain permanently childless compared with women in the industrialized world. In less developed countries, the extent of voluntary childlessness is even smaller (Ram, 2003).

In addition, a wide spread of contraception use and female autonomy had also considerable impact on childbearing. The introduction of efficient contraceptive methods brought the society to

extend human control over fertility (Lesthaeghe, 1995). According to Mason, the following findings on the effects of female autonomy and other variables on contraceptive use are discovered (Figure 2). A key factor argued to intervene between women's autonomy and the use of contraception is the ability or willingness to engage in the innovative behavior (Caldwell, 1986). Where women's autonomy is great, their education is likely to be relatively great, and better educated women are not only more likely to engage in innovation, but typically have more knowledge of contraceptive methods or of how to acquire them than do less educated women because of their literacy, greater familiarity with modern institutions, and greater likelihood of rejecting a fatalistic attitude toward life. There is good evidence that, for whatever reason, women's education does indeed promote the use of contraception in most less developed countries outside of tropical Africa (Cochrane, 1979). Autonomy may also influence the use of contraception by determining women's dependency on their in-laws (Dyson and Moore, 1983). Of course, dependency on in-laws will reduce the likelihood of contracepting only if in-laws oppose the restriction of fertility. This may not always be the case (Caldwell, Reddy, and Caldwell, 1982).

Figure 2 – Hypothesized effects of female autonomy and other variables on contraceptive use



Source: Mason K.O. (1987). The Impact of Women's Social Position on Fertility in Developing Countries.

Female autonomy may also influence contraceptive use by determining the egalitarianism of the husband-wife relationship. Equality of spouses is supposedly linked with the likelihood of their communicating about fertility control, which is in turn argued to influence the use of contraception or at least the effectiveness of its use. The evidence in support of this hypothesis is apparently weak, however (Beckman, 1983; Hollerbach, 1983).

Finally, in some cultures, women's autonomy and status are said to influence contraceptive use by influencing the extent to which the couple abides by a sexual double standard. Where such a double standard exists – making it acceptable for husbands but not wives to have pre- or extra-marital sexual relations – men may worry that the use of female contraceptive methods will free

their daughters or wives to violate this norm. A related idea is that men in cultures with a tradition of machismo will resist the use of contraception, not only because they find it important to insure a wife's sexual loyalty, but also because they believe frequent pregnancies provide proof of their sexual potency (Mason, 1987).

Table 1 – Overview of demographic and social characteristics respectively related to the First Demographic Transition and Second Demographic Transition in Western Europe

FDT	SCD
A. Marriage	
Rise in proportions marrying, declining age at first marriage	Fall in proportions married, rise in age at first marriage
Low or reduced cohabitation	Rise in cohabitation (pre- & postmarital)
Low divorce	Rise in divorce, earlier divorce
High remarriage	Decline of remarriage following both divorce and widowhood
B. Fertility	
Decline in marital fertility via reductions at older ages, lowering mean ages at first parenthood	Further decline in fertility via postponement, increasing mean age at first parenthood, structural subreplacement fertility
Deficient contraception, parity failures	Efficient contraception (exceptions in specific social groups)
Declining illegitimate fertility	Rising extra-marital fertility, parenthood within cohabitation
Low definitive childlessness among married couples.	Rising definitive childlessness in unions
C. Societal background	
Preoccupations with basic material needs: income, work conditions, housing, health, schooling, social security. Solidarity prime value	Rise of "higher order" needs: individual autonomy, self-actualisation, expressive work and socialisation values, grass-roots democracy, recognition. Tolerance prime value.
Rising memberships of political, civic and community oriented networks. Strengthening of social cohesion	Disengagement from civic and community oriented networks, social capital shifts to expressive and affective types. Weakening of social cohesion.
Strong normative regulation by State and Churches. First secularisation wave, political and social “pillarisation	Retreat of the State, second secularisation wave, sexual revolution, refusal of authority, political "depillarisation".
Segregated gender roles, familistic policies, “embourgeoisement”, promotion of breadwinner family model.	Rising symmetry in gender roles, female economic autonomy.
Ordered life course transitions, prudent marriage and dominance of one single family model.	Flexible life course organisation, multiple lifestyles, open future.

Source: Lesthaeghe R. (2010). The Unfolding Story of the Second Demographic Transition.
Note: FDT – First Demographic Transition, SDT – Second Demographic Transition.

Additionally, today a government of many countries across the world provides family planning programs that include promotion of contraception. As a result decrease in proportion of married couples, increase in cohabitation, divorce, the mean age at childbearing led to dramatically changes in fertility behavior and family formation across the countries of the world. In 1985 Ron Lesthaeghe and Dirk Van de Kaa called 'The Second Demographic Transition' all the mentioned demographic trends occurred in most industrialized societies in recent decades. Contrast between so called First and Second Demographic Transition was described by Lesthaeghe (Table 1).

However, the idea and the term of the 'Second Demographic Transition' are not completely accepted by the world demographic community. Some demographers argue that there is no Second' Demographic Transition, but just continuation of a single one. While the others consider that Second Demographic Transition is typical only for some developed societies.

Anyway, the transition from high to low fertility has been – in every society that has experienced it – a one-time event. It is a clear break with the past and so far has been an irreversible process that continues until low levels of fertility are reached. The majority of the world's population now lives in countries in which mortality is low and fertility is either low or the transition to low fertility has unambiguously begun.

Fertility declines – completed or in progress – span the globe. They have begun in countries that differ widely in economic arrangements, social structures, political regimes, national histories, and culture, and they have begun in disparate international contexts. This near-ubiquity suggests that the fertility transition is the outcome of a popular revolution, one that has touched the majority of the world's population in one of the most intimate aspects of their lives (Watkins, 1987).

1.3 Gender equality and family policy: demographic interaction

1.3.1 The impact of female labor force participation on fertility

Throughout last century until the 1970s, the assumed institutional form of the family in all currently advanced countries was the male breadwinner, or family wage model under which the father goes out to work while the mother stays at home to look after the children. The principle underlying this model is that there is a natural differentiation between men and women which requires the man to be the provider and protector and the woman to be the caregiver and reproducer. The antithesis of the male breadwinner model of the family is the gender equity model. In the gender equity model of the family, there is income earning work, household maintenance work and caring and nurturing work, but gender has no specific relationship to whom who does which type of work. The gender equity model does not imply exact equality between the man and the woman in any heterosexual couple, rather that specific roles are not determined on the basis of gender. The principles upon which this model are based are equal respect for men and women, equality of resources and capabilities, parity of participation in socially valued activities, and an end to male-centred measures of social value (Fraser, 1994).

However, since the end of baby-boom era demographic trends in most industrialized countries observed along with changes in social values including female's role in the society. With the decline in fertility rate and child care responsibility, women have more time to participate in labor market. Change in women economic participation has seen as a result of demographic transition. The behavior of female labor supply has important implications for the other phenomenon as well as marriage, fertility, family earnings, gender economic freedom and empowerment and human capital investment of next generation (Savilla et al., 2001).

As labor force demand increased in the 1960s throughout the developed world, married women with children began to enter the labor force; men and single women already had high rates of labor force participation (Lesthaeghe 1995; Goldin 1990). Up until the 1960s, European women were expected to exit the labor force at marriage or childbirth and then care for their children and elderly parents (Esping-Andersen 1999). By 1970, about half of women ages 20-64, were in the labor force in developed countries (Lesthaeghe 1995). According to Hilgeman, today, 74 % of childless women work, while 70 % of mothers with one child work, and 62 % of mothers with two children work, though these rates vary significantly by country. Nowhere in Europe does the 'breadwinner' model, in which men work full-time and women remain out of the labor force, represent more than 30% of all households (Hilgeman, 1999).

As a consequence, women have improved their levels of education, job stability, income and work experience, giving them a higher status in the workplace. Between 1960 and 1980, men's and women's educational attainment converged, and fertility declined rapidly in many Western and Northern European countries (Hilgeman, 2004). By the opinion of Hilgeman, this type of investment in human capital raises both wage potential and opportunity costs. As women's wages increase, the opportunity cost of home production increases for women, yet women continue to perform most of the housework and child care. Moreover, children clearly require time investments, and the responsibilities of parenting fall disproportionately on women. Mothers who work full-time spend twice as much time on child care and household labor as do fathers, and housewives spend three times as much time on child care and two and a half times as much time on household labor than do fathers. As women's household and child care labor increases, wage potential (present and future earnings) decreases correspondingly. This income loss escalates as women's income and job opportunities increase. These opportunity costs continue to prevail as long as 'traditional definitions of women's obligations to husbands and children'. The implication is that very low fertility is a characteristic of societies where traditional roles for mothers and wives interfere with women's realization of gains from the significant improvement in education and employment opportunities (McDonald, 2002).

As most demographers consider that labor force participation, wages, and hours of work during the childbearing years are crucial in determining future labor force success. There is evidence that women respond to these circumstances by limiting the number of children that they have. For instance, a British time series study on married couples for the years 1950-1983 revealed

that as women's wages increased, the number of childless families increased and the number of three-child families decreased (Hilgeman, 2004).

Countries in which female labor force participation has increased the most in recent decades have the lowest fertility rates. On the other hand, the countries that currently have the lowest levels of fertility (Spain, Italy and Greece) are those with relatively low levels of female labor force participation, while the countries with relatively high fertility levels (Denmark, France) have higher female labor force participation (Del Boca et al., 2003).

According to Sweet (1973) there are four major possibilities for causality between fertility and women's employment:

the desire to work leads to restricted fertility;

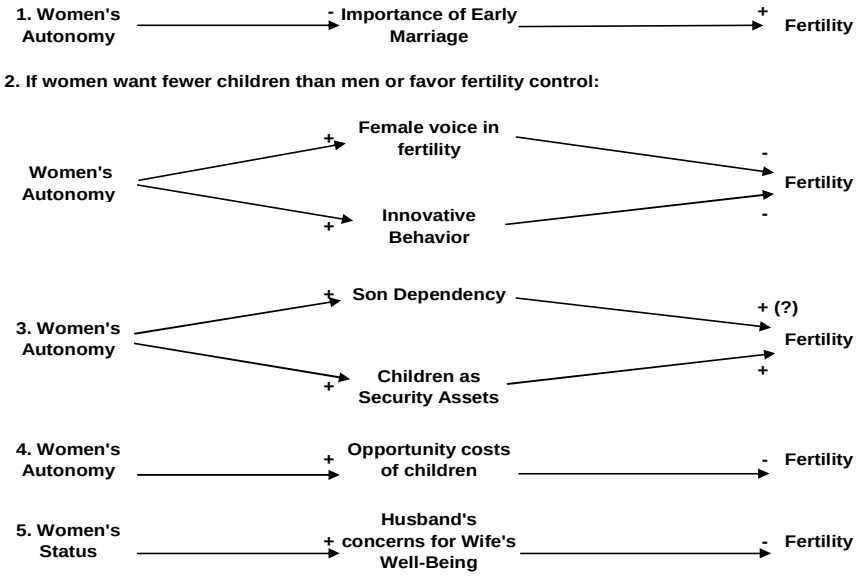
restricted fertility makes it possible to work;

the desire for increased fertility leads to a restriction of work activity;

work and fertility restriction both result from some third variable or combination of variables.

Another important dimension was suggested by Cramer (1980), who asserted that the dominant effects are from fertility to employment to fertility in the long run. Saying that fertility is influencing employment in the short run is obviously the same as taking account of the age of the youngest child, or as Cramer puts it, 'most of the impact of a baby is due to its young age'. This has also been clearly stated by Ni Bhrolchain (1980) in her review of micro-level issues and evidence: 'probably the one certain causal statement that can be made with available data is that 'fertility' in the sense of the recent occurrence of a live birth reduces employment in the short run (Bernhardt, 1993).

Figure 3 – Summary of primary paths through which aspects of women's social position may influence fertility



Source: Mason K.O. (1987). The Impact of Women's Social Position on Fertility in Developing Countries.

Additionally, Mason (1987) in his research presented the most plausible hypotheses about the paths through which aspects of women's position may influence fertility in less developed countries can be summarized by the five models (Figure 3). These models suggest that women's position may influence fertility through child supply, child demand, and child costs.

First, women's autonomy is likely to be inversely related to the importance or urgency of marriage for daughters, something that should influence age at marriage and hence the supply of children.

Second, in settings where women want fewer children than men do or have a more positive attitude towards fertility control, the greater is their autonomy, the more power they will have in fertility decisions and the more likely they will be to engage in innovative behaviors, such as using modern contraceptives. These should in turn reduce fertility by reducing either the demand for children or the psychic costs of fertility regulation.

Third, the greater is women's economic dependency, the more important children will be as security assets and the stronger will be preferences for sons. Under certain demographic conditions, the latter may help to maintain high fertility, as will the former under most demographic conditions.

Fourth, the seclusion of women is likely to lower the opportunity costs of children. Insofar as female autonomy leads to higher levels of female education, it should increase the opportunity costs of children. Both of these should affect the demand for children.

And finally, the greater the equality of the sexes, the more the wife's health and well-being are likely to enter into fertility decisions. This means that where health considerations dictate limiting childbearing – or lengthening interbirth intervals – higher female status may be associated with lower fertility (Mason, 1987).

Most demographers agree that the more children women have, the less likely they are to participate in the labor force. Those who participate in the labor force tend to have fewer children.

1.3.2 Family policy and its models

Usually, fertility decline is associated with social, institutional and economic modernization. Changes in socio-economic development modified conditions for childbearing. By Kohler opinion the acceptance of fertility control by one couple depends on the contemporaneous fertility behavior of other couples. Given this interrelation, social interaction becomes an essential determinant of demographic change. First, social interaction influences the distribution of knowledge in a population. It hence affects demographic decisions when couples face uncertainty about the available contraceptive methods or the dynamics of social change. Second, social interaction can establish a coordinated behavior among community members and it can enhance the effectiveness of media. It can thus initiate a fertility decline when thresholds, institutional inertia or economic development traps would otherwise inhibit or delay this process (Kohler, 1994).

Thus, the demographic patterns occurred in the world led the governments to take proper measures on demographic development and its regulation. Major issue concerns fertility decline and changes in family formation that constitute in the long term the main challenge to welfare

states. Families were the primary economic units as well as reproductive unions. Children were a valued source of household labor and were also the preferred means to guarantee the old-age security of parents. Therefore family support including financial, moral and psychological on behalf of the government is the main issue in state family planning program.

Family policies can be defined as an amalgam of policies directed at families with children and aimed at increasing their level of well-being. From a broad perspective, policies as varied as employment, transport, food, and education policies may be included in the definition of family policies in view of their potential impact on families' well-being. In general, the literature tends however to opt for a narrower perspective and to restrict family policies to its core components: financial support for families, services and benefits for working parents, policies related to health and education, and family law. Even such a narrow definition still encompasses numerous types of policies and programs for families (Gauthier, 2002). Moreover, development in family policy may provide means that facilitate the combination of childbearing and female employment and therefore make the choice between the two unnecessary. Changes in gender role by giving more opportunity to fathers participate more actively in childrearing (Andersson et al., 2010).

Gauthier defined two main approaches in order to capture state support for families. The first approach consists in constructing series of indicators that reflect the amount of support received by various family types.

The second approach consists in using indicators that are more highly aggregated and that provide measures of the overall degree of governmental effort to support families. Such an approach has dominated the empirical welfare state literature and has relied on indicators such as governmental expenditures on family benefits (Pampel and Adams, 1992; Pampel and Williamson, 1988; Kamerman and Kahn, 1997). While such indicators overlook the variations across families in terms of the amount of support received, they have the advantage of being available for a large number of countries, and for long time periods.

These indicators cover two main components of state support for families: the direct and indirect cash benefits for families, and support for working parents:

direct and indirect cash benefits: Governments may provide financial support to families in various ways: they can provide direct financial support (e.g. monthly family benefits – payment) and they can provide indirect financial support (e.g. tax relief for dependent children). In order to capture these different types of support;

support for working parents: In the context of increasing female labor force participation, the level of support for working parents has received increasing attention from governments. Various types of support may be provided to parents including maternity leave, childcare leave, childcare facilities, flex-time, etc. (Gauthier, 2002).

Moreover, Anne Gauthier presented historical review of the development of family policy in OECD[5] countries and clustered countries to four different groups:

[5] The Organization for Economic Co-operation and Development (OECD) is an international economic organization of 32 countries. It defines itself as a forum of countries committed to democracy and the market economy, providing a setting to

Pro-family/pro-natalist model: for which the issue of a low fertility level is a main concern and is considered as requiring government intervention. Support for families is consequently seen as the responsibility of government, especially in relation to encouraging childbearing. Under this model, a great emphasis is placed on cash benefits and more particularly, towards the third child since financial obstacles are believed to be the main deterrent to the birth of a third child. This is especially the case in France and Quebec. In this model, relatively high levels of support are provided for maternity leave and child-care facilities. These measures are part of a general plan to reduce the obstacles to fertility, especially those between employment and family responsibilities. Working mothers are therefore not disapproved of, and conditions are created where being in employment is not an obstacle to childbearing. This pro-natalist orientation is combined with a relatively liberal legislation with regard to abortion. A principle of voluntary parenthood prevails so as to give all families are deemed more desirable.

Pro-traditional model: for which the preservation of the family is the main concern. Governments partly endorse the responsibility of supporting families, while at the same time encouraging a traditional male-breadwinner family. Under this model, a medium level of state support for families is provided. The government takes responsibility to support families, but a belief in the role of family, community, and charity support still dominates. Benefits for working mothers are provided by government, but the persistence of some obstacles to women's employment (e.g. taxation) reflects a preference for a more traditional sex-role pattern. This preference is also reflected in the low provision of child-care, which does not give women the opportunity to combine employment and family responsibility easily. Instead, the government gives preference to extended leave for child-care, which allows mothers to stay at home with their young children while retaining job security. This model of family policy is characteristic of Germany. This policy is not attached to any pro-natalist objective, but is presented under the label of family-friendly policy. A certain degree of traditionalism also remains with regard to the abortion legislation, which is not as liberal as in other countries.

Pro-egalitarian model: for which the promotion of greater equality between men and women is the main objective. Governments take full responsibility in the support of families, especially working parents. This model stands in sharp contrast with the previous one. Instead of promoting a traditional family, the main concept has been the achievement of a more egalitarian sex-role model. For this, the government has taken full responsibility in creating conditions and opportunities to allow women to combine paid employment and family responsibilities more easily, and to allow fathers to take a large role in child-caring. Legislation on parental leave, as opposed to maternal leave, has been one of the centre-pieces of this model. In addition, other benefits, such as leave to care for a sick child and extensive provision of child-care, have also been seen as ways of bringing equality between men and women. The set of measures and benefits is combined with a

compare policy experiences, seeking answers to common problems, identifying good practices, and coordinating domestic and international policies of its members (Wikipedia).

liberal legislation on abortion, thus following the principle of voluntary parenthood, which had been acknowledged at very early stage in Denmark and Sweden.

Pro-family but non-interventionist model: for which responsibility to support families is taken by government only for families in need. The participation of women in the labor force is not discouraged, but limited benefits are provided by the state to support them. Moreover, the traditional family continues to be highly praised. This model, thus, features a completely different attitude towards government's role as welfare provider. Belief in the self-sufficiency of families, and in the merit of a non-regulated market, has resulted in a system of state support for families with very low levels of support. Cash benefits have consequently been kept at a relatively low level, and preference has been expressed for targeted benefits. The argument is that targeted benefits better support families in real need. Provision with regard to maternity leave has also been kept at very low level, the argument being that the government should not impose additional constraints and burdens on employers. The responsibility of providing such benefits is seen as being that of private employers (though collective agreements), and the state has kept its support in this field to minimum. Similarly, provision for child-care has been seen as falling outside government responsibility. Informal arrangements and provision from employers have instead been encouraged. Governments adhering to this model of family policy (as in the United States and Britain) are not apposed to the participation of women in the labor force, but they do not see the provision of support for working mothers as their responsibility. This approach to family policy is combined with a more or less liberal legislation on abortion.

Table 2 – State support for families and policy orientation

Policy area	Type of policies			
	Pro-natalist	Traditional	Egalitarian	Non-interventional
Abortion	Liberal	Liberal-	Liberal+	Liberal-/+
Cash benefits	High	Medium	Medium	Low
Maternity leave	Medium	Medium	High	Low
Child-care	Medium	Low	High	Low

Source: Gauthier A.H. (2002). Family Policies in Industrialized Countries: Is there convergence?

These four models of family policy, as summarized in Table 2 are however found in their 'pure' from only in a limited number of countries.

1.4 Methodology

1.4.1 Data sources and availability

In preparing the diploma thesis, demographic data were taken from different sources of cross national statistical databases. Data on fertility determinants for Sweden, the USA, the Czech Republic and Russian Federation were sourced from published data in the public domain of the Human Fertility Database (HFD) founded by Max Planck Institute for Demographic Research and the Vienna Institute of Demography. HFD is based on one type of the initial data – officially

registered live birth counts by calendar year, mother's age and biological birth order. Moreover, HFD includes detailed data on births, unconditional and conditional fertility rates, cohort and period fertility tables as well as selected aggregate indicators such as total fertility rates, the mean ages at childbearing, and parity progression ratios.

However data for the USA and Russian Federation were also completed by their national database sources such as Central for Disease, Control and Prevention in the USA and Federal State Statistics Services in Russia.

Data for the Republic of Kazakhstan were provided by the Agency of Statistics of the Republic of Kazakhstan. However data on Kazakhstan were unpublished data, which was special output from the Agency. Central Statistical Bureau of the Republic of Latvia supplied with data on demographic indicators in its public domain.

Additionally, data used in the research were completed, updated and in some cases corrected by the international databases of the United Nations, World Bank, World Health Organization regional office for Europe, Council of Europe and European Commission EUROSTAT.

Demographic Yearbook of the United Nations is a comprehensive collection of international demographic statistics, prepared by the Statistics Division of the United Nations (UNSD). UNSD collects these data from national statistical offices through a series of questionnaires. According to UN there are: Population Census; Population Census-Economic characteristics; Population Census-Household characteristics; Vital statistics; Population Estimates; International migration and travel statistics. The Vital statistics questionnaire collects direct information on fertility and derived variables (birth order, birth weight, etc.). While EUROSTAT provides all statistical data of its members in public domain including detailed information on demographic characteristics of European countries.

Demographic data on fertility development in selected countries were collected according to the following characteristics: period: 1999 – 2007; female population aged 15 – 49, live births by age of mother and marital status; live births by age of mother according to birth order.

The research included the analysis of recent fertility development during the period 1999 – 2007. However data on fertility after World War II (for western countries) and the collapse of the socialist regime (for post-socialist countries) in 1991 were used for description of the historical background of some demographic trends.

The detailed demographic data on fertility in selected countries were available in the mentioned sources. However, the lack of data on live births by birth order according to age of mother in 2005 and 2007 for Latvian women forced author to draw some charts with incomplete data on these countries.

Data availability in some post-socialist countries remains still an acute issue. Data on live births by age of mother in Kazakhstan after the period of the Soviet regime is not available in official sources (1991-1998). This data was sourced from the public domain of the Monitoring

Situation of the Women and Children in Central and Eastern Europe and the Commonwealth of Independent States database.

On the other hand, organizing availability of statistical database in most post-socialist countries has improved in recent years. However, in order to analyze demographic trends observed in the nation, a government needs to create disseminated and accessible detailed demographic data.

1.4.2 Quality of data

Problem in quality of birth statistics in demography has still remained in most countries across the world. According to literature birth statistics suffer from the following five types of deficiencies:

1) accuracy of the definition employed and of its application;
2) completeness of registration;
3) accuracy of allocation by place;
4) accuracy of allocation by time;
5) accuracy of the classification of the births in terms of demographic and socio-economic characteristics.

The deficiencies of 1), 2) and 4) are overcome by most developed countries, whereas the other deficiencies still remain problematic issues in demographic statistics. The less developed countries have faced the problems of all mentioned deficiencies, where the high attention is concentrated on the problem of completeness of registration. Quality of birth statistics in western countries of the US and Sweden does not call high doubt among demographers. While, some doubts are cast upon birth statistics in some selected post-socialist countries. On the other hand, the Soviet statistics was improved over past time Social benefits and services under the Soviet social welfare systems were addressed personally to individuals i.e. the territorial offices located in administrative-territorial units of the country had allowed to increase the quality of data gathering by the central statistic office.

1.4.3 Methods

Demography study has developed a great number of fertility measures which refines and elaborates regularly. The most popular methods indicating fertility are used in the research.

Crude Birth Rate (CBR) is the most easily obtained and the most often reported fertility measure. It is calculated from the number of babies born in a given year (or any other time period) divided by the mid-year population, and it is expressed as the number of live births per 1 000 people:

$$CBR = B / {}_{1.7}P * 1000$$

where B is the total number of live births in a given year and ${}_{1.7}P$ is total number of mid-year population.

The crude birth rate is highly sensitive to the age structure of a population. The crucial factor is the percentage of young women of reproductive age, because these women produce most of the babies.

Thus, a population with a relatively high proportion of young people will have a higher crude birth rate than a population with a large proportion of older people.

The general fertility rate (GFR) (also called the fertility rate) is the number of live births per 1,000 women aged 15-49 in a given year.

The general fertility rate is a somewhat more refined measure than the crude birth rate because it relates births to the age-sex group at risk of giving birth (usually defined as women ages 15-49). This refinement helps eliminate distortions that might arise because of different age and sex distributions among populations. Thus, the general fertility rate is a better basis to compare fertility levels among populations than are changes in the crude birth rate:

$GFR = B /_{1.7.}P_{15\text{-}49}{}^{f} * 1000$

where B is total number of live births and ${}_{1.7.}P_{15\text{-}49}{}^{f}$ is total number of females mid-year population at age 15-49.

Total fertility rate (TFR) is the average number of live births that would be born alive to a woman (or group of women) during her lifetime if she were to pass through her childbearing years conforming to the age-specific fertility rates of a given year.

The TFR is the sum of the age-specific fertility rates from a cross-sectional perspective:

$TFR = \sum f_x$

The TFR is a synthetic measure; no individual woman is very likely to pass through three decades conforming to the age-specific fertility rates of any single year.

In reality, age-specific rates change and fluctuate from year to year, even if only gradually. Thus, year-to-year fluctuations in the TFR may reflect changes in the timing of births rather than changes in the average number of children women bear. The TFR is one of the most useful indicators of fertility because it gives the best picture of how many children women are currently having. In general, the total fertility rate is a better indicator of (current) fertility rates because, unlike the crude birth rate, it is not affected by the age distribution of the population.

Replacement fertility is the level of fertility at which the population is just replacing itself. At this level of fertility (TFR = 2.1) and prevailing mortality rates, the rate of population growth is 0 and NRR[6] equals 1.0.

Gross reproduction rate (GRR) is the average number of daughters that would be born to a woman (or group of women) during her lifetime if she passed through her childbearing years conforming to the age-specific fertility rates of a given year. This rate is like the TFR except that it counts only daughters and literally measures "reproduction" – a woman reproducing herself by having a daughter:

[6] Net reproduction rate (NRR) is the average number of daughters that would be born to a female (or a group of females) if she passed through her lifetime conforming to the age-specific fertility and mortality rates of a given year.

$GRR=a*TFR$

where a – the proportion of females (P^f/P); a = 0,488 = 100/205

NRR is calculated by the following formula:

$NRR = \sum f_x^f * Lx/l_0$

where Lx/l_0 is the probability of survival from birth to completed age.

Total fertility rates by birth order. The age order-specific fertility rates may be summed over the childbearing age range to give total fertility rates by birth order. The calculation may be carried out on either a period basis or cohort basis. If TFRk is the total fertility rate for birth order k,

$TFR(k) = \Sigma f_x(k)$

where TFR(k) represents the average number of births of the order k;

where k=1, 2,…, n.

Age-specific fertility rates ASFR (f_x) is the number of live births to women in a specific age group, divided by the mid-year population of women in the same age group. Age-specific fertility rates are used to see differences in fertility behavior at different ages or for comparison over time and are also used to calculate the total fertility rate (TFR):

$f_x = B_x / {}_{1.7.}P_x^f$

where B_x is the number of live births to women born at age x and ${}_{1.7.}P_x^f$ is the number of female mid-year population at age x.

In less densely populated areas, annual numbers of age-specific births may be small, especially for very young or very old age groups, which would result in an age-specific rate considered to be too unstable or unreliable for analysis. Adding additional calendar years (three or five-year average annual rates) and/or expanding the area to be studied should result in a larger number of age-specific births and more reliable rates for analysis.

Age-specific fertility rate by birth order (of the second kind) is defined as the number of births to women in a specific age group of a given birth order per mid-year population of women of this age. It is used to identify fertility orders at different age:

$f_x(k) = B_x(k) / {}_{1.7.}P_x^f$

where $B_x(k)$ the number of live births of a given order (k) to women born at age x and ${}_{1.7.}P_x^f$ is the number of female mid-year population at age x.

Parity progression ratio is the probability a_k of moving from parity k to parity k+1 is called the parity progression ratio. Let TFR(1), TFR(2), ...TFR(k), ... represent the average number of births of order 1, 2, ... k per woman i.e. the proportion of women having had at least 1, 2, ... k children:

$a_0 = TFR(1)$

$a_1 = TFR(2)/TFR(1)$

$a_2 = TFR(3)/TFR(2)$

and $a_3 = TFR(k+1)/TFR(k)$

Proportion of women according to number of children

$p_0 = 1 - TFR(1)$ proportion of childless women

$p_1 = TFR(1) - TFR(2)$ proportion of women with 1 child

$p_2 = TFR(2) - TFR(3)$ proportion of women with 2 children

$p_k = TFR(k) - TFR(k+1)$ proportion of women with k children

Proportion of extramarital births is calculated as the percentage of all children born to parents who are not married (nor living in a legal partnership), occurring during that year:[7]

$B_x^{unmar}/(B_x^{unmar} + B_x^{mar})$

where B_x^{unmar} is the number of live births born at age x to unmarried women in a given age and year and ${}_{1.7.}P_x^{f}$ is the number of female mid-year population at age x and B_x^{mar} is the number of live births born at age x to married women in a given age and year and ${}_{1.7.}P_x^{f}$ is the number of female mid-year population at age x.

The mean age of mothers at childbearing is the weighted average of ages at birth, the weights being the ASFRs (f_x) at each age. The mean age at childbearing is computed as the sum of age-specific fertility rates weighted by the mid-point of each age group, divided by the sum of the age-specific rates. The mean age at childbearing can be computed as follows:

$x = \Sigma(x+0.5)f_x/\Sigma f_x$

The mean age of mothers at first child's birth is defined as the average completed year of age of women when their first child is born. For a given calendar year, the mean age of women at first birth is calculated using the fertility rates for first births by age: [8]

$x = \Sigma(x+0.5)f_x^{(1)}/\Sigma f_x^{(1)}$

Decomposition of fertility measures: fertility level such as the crude birth rate, the mean age at childbearing, or other age-aggregated indexes are affected by changes in the age structure of the females. In order to indentify confounding results due to the age structure and changing fertility intensity levels when comparing over time, decomposition method is applied. Decomposition of difference between two TFR into three components (Gibson):

1) effect of changes in structure according the marital status;
2) effect of changes in marital fertility rates;
3) effect of changes in non-marital fertility rates.

[7] http://www.oecd.org/dataoecd/38/6/40278615.pdf
[8] http://www.oecd.org/dataoecd/62/49/41919586.pdf

Total effect of changes in structure according the marital status, marital fertility rates and non-marital fertility rates, between two periods can be computed as the following:

1) TFR (difference in structure according the marital status) = a+0.5*d+0.5*e;
2) TFR (difference in marital fertility rates) = b+0.5*d+0.5*f;
3) TFR (difference in non-marital fertility rates) = c+0.5*e+0.5*f.

Where *a* is the of effect changes in marital status; *b* – effect of changes in marital fertility; *c* – effect of changes in non-marital fertility; *d* – interaction of structure and marital fertility; e – interaction of structure and non-marital fertility; *f* – interaction of marital and non-marital fertility between *A* – *B* period, which are calculated by the following formulas:

$$a=[\Sigma f_x^{mar(A)} * p_x^{mar(B)} + \Sigma f_x^{unmar(A)} * p_x^{unmar(B)}] - TFR^{(A)};$$

$$b=[\Sigma f_x^{mar(B)} * p_x^{mar(A)} + \Sigma f_x^{unmar(A)} * p_x^{unmar(A)}] - TFR^{(A)};$$

$$c=[\Sigma f_x^{mar(A)} * p_x^{mar(A)} + \Sigma f_x^{unmar(B)} * p_x^{unmar(A)}] - TFR^{(A)};$$

$$d=[\Sigma f_x^{mar(B)} * p_x^{mar(B)} + \Sigma f_x^{unmar(A)} * p_x^{unmar(B)}] - TFR^{(A)} - (a+b);$$

$$e=[\Sigma f_x^{mar(A)} * p_x^{mar(B)} + \Sigma f_x^{unmar(B)} * p_x^{unmar(B)}] - TFR^{(A)} - (a+c);$$

$$f=[\Sigma f_x^{mar(B)} * p_x^{mar(A)} + \Sigma f_x^{unmar(B)} * p_x^{unmar(A)}] - TFR^{(A)} - (b+c)$$

where f_x^{mar} is marital fertility rate at age x, f_x^{unmar} is non-marital fertility rate at age x and p_x^{mar} is the proportion of married women at age x, p_x^{unmar} is the proportion of unmarried women at age x.

Baby bonus or maternity payment is a payment currently available to all families following the birth or adoption of a child. It is designed to recognize the extra costs incurred at the time of a new birth or adoption of a baby (www.careforkids.com.au)

Child care benefit is a payment from the government that helps parents with the cost of your child care (www.careforkids.com.au)

Cohabitation is an arrangement whereby two people decide to live together on a long-term or permanent basis in an emotionally and/or sexually intimate relationship. The term is most frequently applied to couples who are not married (wikipedia).

Contraception – the conscious effort of couples to regulate the number and spacing of births. Also known as family planning (www.census.gov)

Family cash benefits are defined as child-related cash transfers to families, and such support is generally used by families towards the cost of raising children.

Live birth – the birth of an infant, irrespective of the duration of gestation, that exhibits any sign of life, such as respiration, heartbeat, umbilical pulsation, or movement of voluntary muscles. A live birth is not always a viable birth.

Maternity leave (or pregnancy leave): employment-protected leave of absence for employed women at around the time of childbirth, or adoption in some countries.

Paternity leave: employment-protected leave of absence for employed fathers at the time of childbirth. Paternity leave is not stipulated by international convention. Periods of paternity leave are much shorter than for maternity leave. Because of the short period of absence, workers on paternity leave often continue to receive full wage payments.

Parental leave: employment-protected leave of absence for employed parents, which is often supplementary to specific maternity and paternity leave periods (as above), and usually, but not in all countries, follow the period of maternity leave. Entitlement to the parental leave period is individual, while entitlement to public income support is often family-based, so that in general only one parent claims such support at any one time (www.oecd.org).

2. ANALYTICAL PART

2.1 Historical overview of fertility development and family policy in selected countries

Trends in fertility patterns were developing in selected countries in the context of the historical background, specific socio-economic conditions and in relation of definite demographic settings. In this chapter the family behavior of western countries of Sweden and the USA are separately described from the post-socialist countries of the Czech Republic, the Russian Federation, Latvia and Kazakhstan that shared the common past of political and socio-economic conditions.

As it was presented in the previous chapter it was sometime in the 1960s that large scale changes in childbearing and in union formation and dissolution started happening in Western Europe. They comprised, among other developments, the advent of cohabitation, the retreat of marriage, the postponement entry into parenthood and the spread of voluntary childlessness. At the same time highly effective modern contraceptives began to be widely available and spreading quickly in some countries. As it was mentioned above after two decades, Lesthaeghe and Van de Kaa (1986) called it the Second Demographic Transition. (United Nations, 2002).

2.1.1 Western countries: the United States of America and Sweden

The first signs of the Second Demographic Transition emerged already in the 1950s: divorce rates were rising, especially in the US and Scandinavia. Later on and from the second half of the 1960s onward, also fertility started falling from its overall 'baby-boom' high. Moreover, the trend with respect to ages at first marriage was reversed again, and proportions of singles started rising. Soon thereafter it became evident that premarital cohabitation was on the rise and that divorce and widowhood were followed less by remarriage and more by non-marital cohabitation. By the 1980s even procreation within cohabiting unions had spread from Scandinavia to the rest of Western Europe (Ron Lesthaeghe, 2008).

The United States of America

The United States of America is the third-largest population globally, that accounts for about 4.5% of the world's population. The US population has experienced remarkable growth over the past century. From a base of about 152 million Americans in 1950 it added an additional 158 million

persons to the population between 1950 and 2010 (UN, 2010). Currently, according to World Population Data Sheet 2010 the population of the USA amounted to 310 millions, while total fertility rate is valued to 2.0.

Fertility in the USA reached a post-World War II maximum during the peak of the 'baby-boom' in the late 1950s (Table 3). The highest observed value of total fertility rate since post-World War II period was recorded in the end 1950s.

Table 3 – Main indicators of period fertility: Unites States of America

Year	Sum of fertility rates in age groups (‰)				Share 30+ (%)	Mean age at childbearing	Mean age at first birth	TFR
	-20	20-24	25-29	30+				
1960	464	1278	994	931	25	26.4	22.3	3.7
1965	367	980	803	773	26	26.5	22.4	2.9
1970	350	828	717	563	23	26.0	22.4	2.5
1975	285	567	536	381	22	25.8	22.8	1.8
1980	267	574	559	419	23	26.0	23.5	1.8
1985	258	542	555	480	26	26.4	24.0	1.8
1990	300	582	605	583	28	26.6	24.4	2.1
1995	289	539	544	610	31	26.8	24.5	2.0
2000	242	545	571	696	34	27.4	25.2	2.1
2005	208	511	576	761	37	27.9	25.7	2.1

Source: www.humanfertility.org

Numerous reasons of such patterns were suggested by the researchers. By the opinion of H. Klein (author of 'A Population History of the United States') the return of men after 1945 who were conscripted to the war then allowed the fertility rise. At the same time new levels of family income, new availability of federal credit to the middle and lower classes for home ownership, the introduction of cheap mass produced tract housing, and increasing economic mobility due to the higher status employment on the part of younger population all had their impact on temporarily reversing the trends in fertility. The space and income for providing for more children was now available. As a consequence Americans started to get married earlier and increase overall fertility. Finally during the baby-boom period, the mean age of American mothers at 1st birth reached its minimum (22.3) in post-World War II period (Table 3).

In addition to significant shift in reproductive behavior occurred among Americans the share of the economically active population dropped below 60 % in 1960 for the first and only time in the 20th century because of the large jump in births (Klein, 2004).

After the baby-boom period fertility moved back to a long-term trend of decline, a pattern common to all industrial societies as the cost having children increased due to the increasing urbanization of the population and the increasing costs of education. At the same time women's position in the society began to change towards equality with men. Women entered universities in larger numbers and professional careers than ever, thus delaying marriage and childbearing. Wide spread of birth control pill (modern contraception) in the 1960s and 1970s gave more control to women over their own fertility. As a result significant drop in the value of TFR was observed in 1970s (Table 5) and reached the level of below replacement (1.8).

Along with decreasing fertility the mean age of mothers at 1st birth rose, divorce rates and popularity of cohabitation increased too.

Since 1980s, fertility rates were relatively stable, remaining 1.8 birth per woman. Although the value of total fertility rate increased in 1990s reaching the replacement level (2.1). However, TFR has decreased in 2010 (2.0) (UN, 2009, 2010).

While fertility rates increased in recent decades the share of women over age 30 in overall fertility rose from 23 % in 1980s to 37 % in 2005. Whereas the share of younger mothers in overall fertility slightly decreased.

At the same time the mean age of mothers at childbirth over the past decades did not changed significantly. However slight increase was observed in the 2000s compared with the 1990s. However the difference in the mean age at childbearing between 1980 and 1990 was not more than 1 year. Whereas the difference between 1980 (26.0) and 2005 (27.9) was significant, as well the mean age at first childbirth rose from 23.5 in 1980 to 25.7 in 2005. These trends were accompanied by the considerable decrease in fertility among young women.

Family policy (current situation)

The USA has relatively high GDP and low 'total taxation' compared to EU and other developed countries. At the same time it does not have too much developed child care benefit policy. The US social assistance benefits were targeted on poor children and their parents (primarily to mothers), that provided through the program called Aid to Families with Dependent Children and guaranteed right to poor families qualified for program. That program was later superseded by a new program which called Temporary Assistance to Need Families (Kamerman, 2001).

Parental leave

The US does have an unpaid family leave and five states (California, Hawaii, New Jersey, New York, and Rhode Island) have a paid temporary or short term disability benefit that covers pregnancy and maternity as well. The Family and Medical Leave Act (FMLA) enacted in 1993 requires that businesses with 50 or more employees provide 12 weeks a year of job-protected, but unpaid, leave to qualified employees (those who have worked at least 1250 hours in the prior year), for birth, adoption, foster care, or personal or family illness. However, many employers offer maternity leaves under temporary disability plans through company policy or collective bargaining agreements.

In 2002, California became the first state in the country to create a paid family leave program. California's groundbreaking paid family leave law went into full effect on July 1, 2004. Over 12 million California workers – nearly 10% of the US work force – can receive income replacement for a maximum of 6 weeks (paid up to 55% of wages up to 882 $ a week for 2007) when they take leave to care for an ill family member or a new child. They simply apply to a state-administered, employee-funded insurance fund. The law was backed by a broad coalition of supporters, including representatives of labor, women, seniors, communities of color, children, parents, caregivers, the disabled, faith communities, employers, and many, many others (www.childpolicyintl.org).

Baby bonus

There is no any baby bonus to a new born.

Child care benefits

The US government does not provide the families with children for any type of child care benefits. However, instead of this it provides the following tax benefits to the families:

standard deduction – is the amount that can be subtracted from the adjusted gross income to figure taxable income. The standard deduction is for taxpayers who do not itemize deductions (income is generally below 133000 $ for couples and 67000 $ for singles). For 2001, the standard deduction for a married couple with dependent child(ren) was 7600 $;

child tax credit – is a federal tax credit to help families with the costs of raising children up to the age of 17. The credit is worth up to 600 $ per child for single parent whose income is 75000 $ or less (per year), and for married parents whose income is between 75000 $ and 110000 $. The credit decreases as income increases above these income limits. For the first time, the credit will be refundable this year for eligible workers who earn above 10000 $;

the child and dependent care credit – is a non-refundable tax credit for employment-related care expenses for children under 13 years or qualifying dependents. For lower income families, the credit can be as much as 720 $ for one child, and 1440 $ for two or more. The amount of this credit depends on family income, the number of children or dependents in care, and the cost of care (the credit is limited to a portion of expenses of up to 2400 $ for one and 4800 $ for two or more children or dependents). Individuals and couples who are working and pay taxes may be eligible for a partial credit at all income levels, assuring them of a tax benefit worth at least 480 $ for one child and 960 $ for two or more if their income is above 48000 $;

earned income tax credit – is a refundable federal tax credit for employed persons with moderate incomes. For families with children the maximum credit for 2001 ranges from 2428 $ to 4008 $ depending on the number of children and family income. To be eligible, families with one child must have income below 28281 $, and under 32121 $ for families with two or more children;

adoption credit – a tax credit of up to 5000 $ (6000 $ for the adoption of a child with special needs) for expenses related to the adoption of a child. The credit is reduced if the family income is between 75000 $ and 110000 $, and not available to families whose income is above 110000 $ (www.childpolicyintl.org).

Along with tax benefits to the families there are variety of tax benefits and credits aid parents of students at all educational levels, particularly for college, and include: tax deductibility within limits of qualified educational loans; IRA[9] savings for future educational expenses; college savings plans; other educational expenses in low-earner families, etc.

Historical context

According to Sheila Kamerman and Alfred Kahn points of view, the United States has never explicit national, comprehensive family or child policy, nor has there been any such policy in the past. Over the past century, time to time, social policies were enacted and some measures were directed at children or families with children. These enactments were in considerable part

[9] An Individual Retirement Arrangement (IRA) is a retirement plan account that provides some tax advantages for retirement savings in the United States (Wikipedia)

concentrated in several 'bursts' during periods of reform: The Progressive Era (approximately 1895 – 1920), the New Deal and its aftermath (1932 – 1954), the War on Poverty and Great Society (1961 – 1974). The Reagan-Bush interlude saw attempts to dismantle which did not upset the New Deal and Great Society core, but there was a freeze and some funding cuts which did damage. Then a hundred years after the Progressive Era, at the beginning of the Clinton Administration, there were new child and family initiatives, but by the middle of Clinton's term a wave of conservative reaction made a major effort to dismantle a sixty-year history of increasing social entitlements.

Sweden

Sweden is the largest country in Scandinavia, both in terms of land area and population size which increased from 6.4 million to 9.4 million between 1940 and 2010. The trends begun with the pronounced increase during the earlier part of the twentieth century led later to decreasing growth rates, making immigration responsible for a significant proportion of the population increase from 1940 to 2010. Total fertility rate has strongly fluctuated below replacement level since the late 1960s (Table 4). Currently, according to World Population Data Sheet 2010 total fertility rate is valued to 1.9.

Sweden is well-known as the forerunner of the so-called Second Demographic Transition characterized by the dramatic transformation of family patterns towards less committed and more fragile couple relationships, by the later and less likely transition to parenthood, and by the sharp reduction of higher-order births currently taking place in Europe and European-origin populations (Lesthaeghe 1995). It may seem contradictory that Sweden, as a 'pioneer' of the Second Demographic Transition, commonly associated with low fertility, also exhibits currently one of the highest fertility levels in Europe, with a completed fertility close to replacement.

After a nearly continuous fertility decline over the first four decades of the 20th century followed by the baby-boom of the 1940s, and somewhat lower but stable fertility levels in the 1950s, childbearing trends in Sweden have shown a roller-coaster pattern from the 1960s onwards (Hoem and Hoem 1996). Often explained by women's sharply increasing labor-force participation, the TFR decreased from a high of 2.4 children per woman in 1965 to a low of 1.7 in 1980, when it turned, resulting in a 'mini baby-boom' in the late 1980s-early 1990s. In 1990 TFR reached replacement level for the first time since 1968, in combination with the highest female employment rates ever. This was followed by a marked decline in fertility in the 1990s. In 1998-1999, the lowest TFR (1.5) ever in Sweden was recorded. This may be compared to the low birth rates in the mid-1930s, when the 'crisis of the population question' was one of the main topics of the Swedish political discourse, given a TFR of around 1.7, which resulted in lower reproduction rates than recent comparable fertility rates, given higher death rates then (Oláh, 2008). Even though fertility has been slowly increasing again since the year 2000, reaching the maximum value over the past decades (1.9 in 2010) (UN, 2010).

Table 4 – Main indicators of period fertility: Sweden

Year	Sum of fertility rates in age groups (‰)				Share 30+ (%)	Mean age at childbearing	Mean age at first birth	TFR
	-20	20-24	25-29	30+				
1960	189	645	683	681	31	27.5	25.5	2.2
1965	232	713	767	705	29	27.2	25.2	2.4
1970	165	596	639	518	27	27.0	25.9	1.9
1975	142	571	619	434	25	26.7	24.3	1.8
1980	82	475	622	498	30	27.6	25.2	1.7
1985	52	414	657	611	35	28.4	26.1	1.7
1990	68	482	778	799	38	28.6	26.3	2.1
1995	41	326	623	729	42	29.2	27.3	1.7
2000	35	236	535	745	48	29.9	28.0	1.6
2005	31	233	549	961	54	30.5	28.7	1.8

Source: www. humanfertility.org, Recent Demographic developments in Europe – Council of Europe, 1999

At the same time the share of women over age 30 fluctuated in the 1960s and 1970 varies from 30 % to 25 %. However, from the 1980s the number of women (aged 30+) delivered a birth increased. The share of those women rose from 30 % in 1980 to 54 % in 2005 (Table 4).

The mean age at childbearing among Swedish women over the past decades changed considerably. The mean age of mothers at first childbirth increased rose from 25.2 in 1980 to 28.7 in 2005, whereas the mean age of mothers for all birth orders increased from 27.6 to 30.5 in the same period.

The main reasons of such changes were primarily the followings:

more women are attending school longer and are therefore postponing childbearing;

highly educated women have fewer children;

a larger percentage of women are in the labor force and have more education and higher status jobs;

more unmarried couples are living together and are less likely to have children than married couples;

effective methods of contraception are being widely used;

working women have difficulty finding adequate day care centers;

the burdens of housework, caring for the children, and cooking and shopping are being borne primarily by women whether they work or not? (www.academics.smcvt.edu).

Family policy (current situation)

Swedish family policy is based on the principles of universality and individual rights. Traditionally the services provided by the Swedish social security system have been universally available. This still applies to support to families with children. Sweden has a generous system of parental insurance, comprehensive school and child day-care.

According to the report of Ministry of Health and Social Affairs (2003) in Sweden the majority of families with children have two incomes. Most single parents are gainfully employed. Benefits that encourage work and make work possible thus tend to be more important than the level of child care benefits. Swedish financial support to families is aimed at reducing disparities in living conditions between households with children and without.

Parental leave

Swedish Early childhood education and care policy includes paid, job-protected parental leave. Parental leave income replacement programmes were introduced in 1974, which amended several

times subsequently. It is a universal social insurance benefit, to which all parents are entitled when giving birth or adopting a child. The insurance covers a right to leave from work with a job guarantee and a right to financial support during the leave; the benefit is included in taxable income.

Pregnancy benefit can be paid for 7 weeks until 11 days before the expected birth to women who are unable to work because of physically work demands; other pregnant women may use their paid parental leave or sick leave for 60 days before the expected birth. There is an associated two-week paternity leave after childbirth. Parental leave, totaling 480 days of paid leave, consists of two months reserved exclusively for each parent and the remainder as a family benefit. In an OECD review, 35 percent of Swedish fathers took their full two months, the highest proportion in OECD countries (OECD, 2006). The first 13 months of leave is paid at 80 percent of wages up to a ceiling (and 100 percent for civil servants), another three months at a low flat rate, and the final three months unpaid, but still job-protected. (A non-working mother is entitled to the minimum flat rate benefit). (Private employers increasingly are 'topping off' the first four months, thus covering 100 percent of salary for these months). The parental leave can be prorated (to cover 12.5 percent, 25 percent, 50 percent, or 100 percent of time off from work) or shared by mother and father. The paid leave portions may be used until the child's eighth birthday. All eligible mothers take advantage of the fully paid leave and about 80 percent of the flat rate benefit is claimed. About 75 percent of eligible fathers took some part of the leave, but this amounted to only 19 percent of all parental leave taken in 2004. At the same time Swedish fathers have a 'Dad's day', when the father of a new-born child is entitled to 10 days temporary parental leave on the birth of his child. These days are meant to be used either to welcome and take care of the new child or to take care of older children in the family when a new child is born. According to the report of Ministry of Health and Social Affairs (2003) almost all fathers make use of these days (www.iesf.es).

Baby bonus

Non existent

Child care benefits

In Sweden child care benefits are paid to all children. Child care benefits are a cash benefit provided to families with at least one parent residing in Sweden for at least 6 months, based on the presence and age of the child. The first and current law was enacted in 1947, and applies to Swedish residents with one or more children under age 16 (or 20 if a student, 23 if attending a special school for the intellectually disabled). Child care benefit is payable at the rate of 1050 SEK a month (about 112 €). It is a universal benefit. There is a small supplementary allowance for the second child in two-children families. A special benefit for large families – with three or more children – and linked to child care benefit, was eliminated in 1996 but re-instated subsequently. An extended child care benefit is payable for children over 16 still attending compulsory school and for those attending upper secondary school. The benefit is excluded from taxable income. Children of widows and widowers may receive child care benefits in addition to the child pension. Children of other single parents with full custody receive a larger allowance, either from child support

payments or advanced maintenance allowance from the state. A special allowance is payable to parents adopting a foreign child (from outside the country). The current conservative government has announced its intention to open the way for municipalities to introduce child-raising allowances for the purpose of enabling parents with children aged one to three to extend their time at home after the expiration of their parental leave (www.childpolicyintl.org).

Along with child care benefits Sweden has provided to families with children as well as spouses and single persons by housing allowance, only to Swedish residents. It exists in two main forms:

the income tested housing allowance that varies according to age, income, housing cost, and the number of children;

rent payments, which are fully covered for social assistance claimants with a supplement to the housing allowance.

These measures as the tax-free benefits and have played an important role in the incomes of modest and low-income families. According to the data given in the webpage of Clearinghouse on International Developments in Child, Youth and Family Policies at Columbia University, nearly 30 percent of Swedish households with children received a housing allowance in 2001, largely single mothers (Swedish Ministry of Health and Social Affairs, 2002). The scheme benefits 82 percent of lone parent households (OECD, 2007).

Historical context

Historically, Sweden has been the prototypical Scandinavian country, following a distinctive and generous pattern of social policy. The emergence of a Swedish model in the social policy field is largely a World War II phenomenon. It started with the introduction of universal old-age pensions and equally universal child benefits. In the 1950s this was followed by the introduction of earnings-related benefits in a universal framework. Social Security benefits were further improved and extended in the 1960s and 1970s. The extension of the maternity leave and benefit to a parental policy was part of this development, as was the expansion of the public social services for the elderly and then for children. These benefits and services are financed by direct and indirect taxes and by contributions from employers and employees.

For several decades Sweden's family policy has been one of the most clear examples of a dualearner model, where parents have been encouraged to participate in labor market and to share unpaid care work.[10] This policy orientation has over the past four decades gradually been strengthened through expansions of public day-care, extended earnings-related parental leave for both parents and individualized income taxation of spouses. Shared responsibility over children after parental separation has also been promoted by making joint custody norm and enforcing shared economic responsibility through the maintenance system (Ferrarini and Duvander, 2009).

[10] In the dual-earner model both parents are taxed individually; parental leave supports female paid work and male care work; and publicly subsidized childcare is affordable, provided on a full time basis and of high pedagogical quality.

The Swedish dual-earner model is commonly seen as resting on three pillars: earnings-related parental leave benefit[11] with long duration; affordable, full day public day-care from the child's first birthday; and individual income taxation. A fourth potential pillar, less discussed in the social policy literature, is that of joint custody legislation, where custodial rights and responsibilities of fathers have been reinforced since the late 1970s.

Whereas public day-care has been expanded in Sweden for almost four decades. Today, 77 percent of all children in ages 1-3 participate in publicly financed day-care as do 97 percent of all children in ages 4-5 (Swedish National Agency for Education 2007). Several reforms have also been implemented that increase pedagogical ambitions of public day-care and introduce guaranteed rights to participation in public day-care for all children (also those with unemployed parents). In 2002, low fixed maximum user fees for publicly financed childcare were introduced abolishing most of the regional differences in price and availability that previously had existed.

Even if the last decade has seen increased variety in the forms of childcare (such as cooperatives run by parents or other organizations or privately run day-care centres) the absolute majority of childcare is financed through public spending and follows the centrally set curriculum and other regulations. Almost all staff in Swedish day care centres is trained to work with children. Pre-school teachers with a three year tertiary degree make up around 60 percent of the staff in centres, the rest of the educated staff have a secondary vocational training as child-minders (Swedish National Agency for Education 2006).

There are several distinctive features of the Swedish model. One is the strong emphasis on universal rather than targeted and means-tested social policies. Sweden is one of the two countries (along with Denmark) with the lowest degree of income inequality. Social assistance exists in Sweden and is locally administered, but it is a not a major component of social protection. A second distinctive feature is the stress on labor market policy and the strong link between labor market and social policies. A third is the emphasis on 'active' rather than 'passive'' labor market policies focusing on education and training of the unemployed, rather than unemployment benefits. And a fourth is a stress on gender equity.

The general culture in Sweden stresses the importance of maintaining a balance between work and family life. Government policies support this, in particular the extensive system of subsidized early childhood education and care, and the extensive and generous parental leave policies including post childbirth, post adoption, and sick-child policies. Employers must adapt to these policies and apparently have done so (www.childpolicy.org).

[11] Earnings-related leave is financed by employers fees but imply no direct cost to the employer when leave is used. Parents receive benefits related to previous earnings if they have had earnings for 240 days before childbirth. The ceiling of benefits is relatively high, but in the 1990s the ceiling was lagging behind real wage increases and in reality many parents (mostly men) received a lower benefit than the statuated 80%.

2.1.2 Post-socialist countries: the Russian Federation, the Czech Republic, the Republic of Kazakhstan and the Republic of Latvia

Through the period of socialist regime in Eastern Europe and post-soviet republics were living in isolation. However, people were marrying and having children in ways that were to some extent similar to those of Western Europe in the baby-boom era. Family was protected and supported by the state that provided various measures.

As the 1980s turned to the 1990s the collapse of socialism in Europe and in the space of post-soviet republics occurred. The transformation to a new political and economic order caused major discontinuities and growing differentiation within the region. At the same time in Western Europe, economic prosperity continued, social and political stability endured and multifaceted integration accelerated.

The changes occurred in 1990s in the post-socialist countries a number of scholars have grappled with the challenge of understanding and describing the mechanisms and causes of these processes. As Sobotka (2004) and others (Philipov 2003, Philipov and Dorbritz, 2003) have pointed out, attempts to decipher the main determinants of the fertility declines of the 1990s were centred on two theories. The first saw the economic and social crisis of the early 1990s as the principal cause of the respective fertility and family formation trends. The other regarded the diffusion of cultural and ideational developments – namely, the adoption of new, western norms, values and attitudes – as the main stimulants for the demographic changes (Frejka, 2008). Many authors also recognized that both sets of determinants played crucial roles. As Frejka (2008) considered that such a dichotomization between the 'crisis' and the 'cultural and ideational diffusion' theories is a simplification and can lead to confusion, even if both were considered to have operated simultaneously.

At the same time, in addition to the economic crisis factors that impinged on childbearing decisions, a new set of economic factors previously unknown in the state socialist economies emerged, namely, the type that evolve naturally as part of the shift towards a market economy, such as competition in the labor market, job insecurity and rising costs of children. However, obvious and simplistic it may appear, the replacement of the state socialist regimes by market economies and by fledgling democratic institutions of governance is the root cause of the demographic changes and trends during the transition period and beyond (Frejka, 2008).

The conditions which were generally conducive for childbearing, such as job security, low-cost housing, free education, free health care, various entitlements associated with child birth and childrearing, as well as a lack of career opportunities and leisure activities; were replaced by the considerably more restraining conditions for childbearing of job insecurity, an increasing pressure to acquire more education, expensive housing, lesser and declining birth and childrearing entitlements, as well as the availability of a variety of career opportunities, consumption attractions and leisure activities. The citizenry of the state socialist countries had grown accustomed to a relatively care-free existence, although the standard living conditions were worse than in the

western countries, and there were numerous unpleasant concomitants to this lifestyle. (Frejka, 2008).

The short description of historical fertility development and family policy to all selected post-socialist countries further presented.

The Czech Republic

The Czech Republic with the total population size 10.5 million (in 2010) declined by 0.3% between 1990 and 2010 (UN, 2010). Currently, according to World Population Data Sheet 2010 total fertility rate is valued 1.5.

By the opinion of Stloukal (1998) fertility trends during the socialist era can be seen as a sequence of 'temporary booms and busts'. The value of TFR in the 1960s was about the replacement level (2.1) and still remained until in the beginning of the 1980s. At the same time, the highest value of TFR was observed in the middle of 1970s (2.4).

The most drop in the level of TFR observed after the collapse of the socialist regime in the country. The decrease in total fertility rate was from 1.9 in 1991 to 1.1 in 1999 that was caused by the fertility decrease among young women aged 20 – 24 (Rychtaříková, 2001). At the same time the level of fertility among older women (25 – 29) also fell (Table 5). On the other hand, a clear trend towards fertility recuperation took place at older ages (30+). The share of those women in overall fertility rose from 14% in 1980 to 26% in 2005.

Table 5 – Main indicators of period fertility: Czech Republic

Year	Sum of fertility rates in age groups (‰)				Share 30+ (%)	Mean age at childbearing	Mean age at first birth	TFR
	-20	20-24	25-29	30+				
1960	239	921	585	374	18	25.4	22.9	2.1
1965	240	923	613	406	19	25.5	22.7	2.2
1970	238	863	512	288	15	25.0	22.5	1.9
1975	284	1063	675	379	16	25.1	22.5	2.4
1980	286	990	544	285	14	24.7	22.4	2.1
1985	268	929	514	252	13	24.6	22.3	2.0
1990	247	876	517	257	14	24.8	22.5	1.9
1995	119	516	407	237	19	25.8	23.3	1.3
2000	64	333	447	297	26	27.2	24.9	1.1
2005	54	242	502	484	26	28.6	26.6	1.3

Source: The Czech Republic: A rapid transformation of fertility and family behavior after the collapse of state socialism Tomáš Sobotka Anna Šťastná Kryštof Zeman Dana Hamplová Vladimíra Kantorová, 2008, Recent Demographic developments in Europe – Council of Europe, 1999

Indicators of fertility timing illustrate the intensity of the ongoing transition to a later childbearing. The mean age of mothers at first childbirth rose from 22.4 in 1980 to 26.6 in 2005, whereas the mean age of mothers for all birth orders increased from 24.7 to 28.6 in the same period.

As a result the fertility rate among young women decreased significantly which determined as postponing fertility, later childbearing, and higher heterogeneity in family formation and living arrangements.

Changes in fertility levels observed during the 1990s were primarily caused by the transformation from socialist regime into market economy. However, in 2009 and 2010 the Czech Republic experienced the highest value of total fertility rate over the last decade (1.5).

Family policy (current situation)

Parental leave

In order to enable better care of a child, an employer is required to provide parental leave to a female employee and male employee upon their request. Parental leave is provided to the mother of the child upon termination of the maternity leave and to the father as of the child's birth date, in the scope as requested by them, but no longer than until the child reaches the age of three years.

Parental leave does not have to be taken as a single period in its full length. This means that, for example, if a male/female employee returns to work within the first year of the child's life, he/she may request parental leave again at any time up to the child's age of three years.

Both female employee and male employee returning to work after their parental leave must be assigned to the type of work agreed in their employment contract.

During the parental leave taken in the scope equal to the mother's parental leave, the female/male employee is not entitled to any wage compensation; however, he/she is entitled to a state social support the child care benefit (see p.46).

In the period during which a female employee has been taking her maternity leave, a male employee may take his parental leave. Parental leave may be taken by both the female and male employee at the same time. In the situation where the parental leave is taken by both parents at the same time, only one of them is entitled to the material benefits.

Provisions on maternity and parental leave shall apply accordingly to placing a child in substitute parental care based on decision by the competent body (www.mpsv.cz).

A female employee (mother) is entitled, in relation to childbirth and care of the newborn baby, to maternity leave for a period of 28 weeks; in case of a multiple birth (two or more children), the mother is entitled to maternity leave for a period of 37 weeks. As a rule, a female employee commences her maternity leave from the beginning of the sixth week prior to the expected confinement date, but no earlier than from the beginning of the eighth week before that date. If a child was delivered stillborn, the female employee is entitled to maternity leave for a period of 14 weeks. Maternity leave in relation to childbirth may never be shorter than 14 weeks, and it may in no event be terminated or interrupted earlier than after six weeks following the confinement date.

The time taken by a female employee for her maternity leave and parental leave, and the time taken by a male employee for his parental leave are considered to constitute a material impediment to work based on which the male/female employees absence from work must be excused. During this period, the female/male employee is not entitled to any wage compensation, but is entitled to social insurance benefits and state social support benefits. If a female employee returns to her job upon termination of the maternity leave, or a male employee upon termination of the parental leave taken up for the period, during which a woman is entitled to be in maternity leave, the employer is required to assign them to their original work and workplace again. If this is not possible because of the work having been ceased or the workplace having been scratched, the employer must assign them to another work corresponding to their employment contract (www.mpsv.cz).

According to a 2006 EU study on work-life balance, only 2% of Czech fathers take parental leave, the second lowest figure among the 21 EU countries covered by the survey (www.eurofound.europa.eu).

Baby bonus

This is a lump-sum benefit to cover the costs related to the birth of a child. If a woman who gives birth to a child dies and the baby bonus has not been disbursed to this woman or another person, the child's father is entitled to this grant. A person who has taken a child up to the age of one year old into permanent care replacing parental care is also entitled to the birth grant. The birth grant amounts to 13000 CZK (520 €) for each child born (www.mpsv.cz).

Child care benefits

A parent, who – for an entire calendar month personally, on a day-long basis and duly cares for a child who is the youngest in the family, is entitled to child care benefit. It is provided at three rates that are set at fixed monthly amounts – increased rate, basic rate and reduced rate.

A parent may choose the draw child care benefit for a period of two, three or four years. By selecting the period of support, the parent also determines the amount of the benefit, as follows:

faster draw-down of the child care benefit at an increased rate (11400 CZK / 456 €) up to 24 months of age of the child; however, only parents who are entitled to parental leave of at least 380 CZK (15 €) per calendar day may apply for this form of draw-down;

standard draw-down – following parental leave, at the basic rate (7,600 CZK / 304 €) up to 36 months of age of the child; only parents who are entitled to parental leave may apply for this form of drawn-down;

slower draw-down – following parental leave or from the birth of the child (if the parent is not entitled to parental leave), at the basic rate (7600 CZK / 304 €) up to 21 months of age of the child and, hereafter, at a reduced rate (CZK 3800 / 152 €) up to 48 months of age of the child.

In case of disabled children, the parent is entitled to a child care benefit at the basic rate of 7600 CZK until 7 years of age of the child, not sooner than from the day on which the child is diagnosed as suffering from a long-term disability or a severe long-term disability, or after drawing-down of the increased-rate parental allowance has been terminated, regardless of the form of draw-down of the child care benefit previously chosen by the parent (before the diagnosis of the child's health condition).

A precondition for the entitlement to the parental allowance is that a child under the age of 3 years attends a crèche or other facility for pre-school children for a maximum of 5 calendar days in a calendar month (www.mpsv.cz).

At the same time the Czech government provides social benefit to low-income families to cover the costs of their needs. Parents who care for at least one dependent child are entitled to this allowance provided that the family income in the previous calendar quarter does not exceed 2.0 times the family's subsistence minimum (Table 6).

The amount of the benefit varies depending on the family income and the amount of subsistence minimum for the dependent children. The higher the family income, the lower the

benefit. The social benefit may be raised in cases where the child suffers from a severe long-term disability, long-term disability or long-term illness. Situations where the parent is a single parent or disabled are also taken into account. A higher level of social allowance is granted to families in cases of multiple births – up to the age of three years, or to families where the child is attending a secondary school on a daily basis or studying at a university on a full-time basis.

Moreover the state the state provides housing benefit – a contribution to the housing costs for low-income families and individuals, regardless of whether they live in a council flat, cooperative apartment, private apartment or a private house.

The amount of the housing benefit is calculated on the basis of the family income, the housing costs and the respective standard costs. According to the data of Ministry of Labour and Social Affairs of the Czech Republic on the average, it amounts to 1111 CZK (44 €) per month.

Table 6 – Family subsistence minimum according to the number of dependent children in the Czech Republic (2009)

Complete family (both parents) with dependent children	Family subsistence minimum	Net monthly income threshold to be entitled to social allowance
One dependent child up to 6 years	7080 CZK (283 €)	14160 CZK (566 €)
Two dependent children 5, 8 years	9040 CZK (361 €)	18080 CZK (723 €)
Three dependent children 5, 8, 12 years	11000 CZK (440 €)	22000 CZK (880 €)
Four dependent children 5, 8, 12, 16 years	13250 CZK (530 €)	26500 CZK (1060 €)

Source: www.mpsv.cz

Historical context

Before the collapse of socialist regime in the Czech Republic population policy was mostly pro-natalist and interventionist which aimed at stimulating childbearing. During this period communist regime promoted the model of a double-income family for the family behavior patterns of the population, with both spouses being economically active, and provided all suitable conditions to support the application of this model (educational day care facilities, etc.). The traditional functions of the family – i.e. raising children, socialization, etc. – were assumed by the state, which largely strove to restrict the scope of the family's activities to its biological reproductive function. Yet despite this institutional pressure, the family remained a place of intergenerational solidarity and mutual assistance (www.mpsv.cz).

Since 1990 government support was limited and directed to those considered 'most in need'. In addition, two important family benefits lost their explicit pro-natalist incentive. Firstly, instead of dependency on the number of children in the family, child care benefits became related to the age of the child. Secondly, extended child-care leave benefits were also made available to a mother or father with one child, while this cash benefit had been previously intended for women with two or more children (Rychtařiková, 2001).

In 1995 the pro-natalist measures were adopted in the Czech Republic such as birth grant, child-care leave benefit and child allowances which were not introduced during the communist era. Moreover duration of payment of child-care benefit has been prolonged from three to 4 years of the

child's age. Prior to parental leave women are entitled to 28 weeks of maternity leave (6 or 8 weeks before childbirth). At the same time the father of a child can also receive the parental allowances since 1990, but employed fathers have been entitled to take paid parental leave only since 2001.

A new government of the Social-Democratic Party which came to power in 1998 paid a high attention on problems of fertility decline and aging population in the country. A new concept of family policy was promised to be adopted.

In contrast, in the Czech Republic 'extreme shocks or turbulence as experienced in many other post-communist societies' were avoided (Sobotka, 2008). However, within 1990s period Czech society experienced a shift from early and almost universal childbearing to later, lower, and more varied childbearing patterns. Although the most widely discussed feature of this shift had been the drop of the total fertility rate to one of the lowest levels in the world by the late 1990s. The massive postponement of family formation partially was driving force of the observed decline in the period TFR.

The Russian Federation

The population of Russia peaked at 149 million in 1991, just before the breakup of the Soviet Union. Low birth rates and abnormally high death rates caused Russia's population to decline at a 0.5% annual rate, or about 750000 to 800000 people per year from the mid-1990s to the mid-2000s (Wikipedia). Currently, according to World Population Data Sheet 2010 the population of the Russian Federation amounted to 142 millions, while total fertility rate is valued 1.5.

The value of TFR in the 1960s was about replacement level (2.1) (Table 7). From the 1970s until the beginning of the 1980s it started to decease. However, during the baby-boom occurred in the Soviet Union in the middle of the 1980s the replacement level reached again.

In the 1990s fertility has declined in all age groups of women, even the youngest (under 20), in which fertility had been steadily rising before 1990. In all age groups except the youngest, the fertility rate was lower than at any time in the entire postwar period (Vishnevsky, 1995).

The fertility decline after 1990 was due in part to factors that were not connected with the long-run transition, but which are not necessarily connected to the short-term crisis, either. Among other factors, the fertility decline is due to the timing effects which revealed themselves in the 1980s. In this period, cross-sectional fertility indices increased due to the policy measures of the early 1980s.

Consequently, the increase in the total fertility rate was bound to be followed by a decline. In all likelihood, this was indeed the case in the late 1980s and early 1990s. Moreover, the timing effects were accompanied by other factors that existed before but became more visible under the influence of reforms carried out in Russia. The paternalistic-state mechanisms regulating people's economic, social, and demographic behavior weakened and gave way to market mechanisms. This means that great numbers of families had to adapt their current plans to the new conditions, while extending their material and ideological capabilities for such adaptation. In terms of demographic

behavior, Russia was drawing closer to the countries with market economies. At the same time, the Russian model of procreative behavior still differs from the western one in important features.

Table 7 – Main indicators of period fertility: Russia

Year	Sum of fertility rates in age groups (‰)				Share 30+ (%)	Mean age at childbearing	Mean age at first birth	TFR
	-20	20-24	25-29	30+				
1960								
1965	124	752	601	650	31	28.2	24.8	2.1
1970	149	763	548	549	27	26.9	23.3	2.0
1975	173	794	540	464	24	25.7	22.9	2.0
1980	218	788	510	379	20	25.2	22.9	1.9
1985	235	829	588	462	22	25.9	23.2	2.1
1990	275	783	466	360	19	25.8	22.9	1.9
1995	224	564	333	212	16	24.9	22.6	1.3
2000	137	468	337	248	21	25.8	23.5	1.2
2005	131	435	389	333	26	26.6	24.1	1.3

Source: 'From the first to second demographic transition' Sergei Zakharov, 2008, author's calculation, www. humanfertility.org, Recent Demographic developments in Europe – Council of Europe, 1999

During the 1990s Russia experienced its significant drop of the level of TFR from 1.9 in 1990 to 1.2 in 2000. Such rapid reduction of the TFR was caused primarily by decrease of the value of fertility rate among women aged less than 24. Whereas fertility among older women also decreased, but in the end of 1990s and the beginning of the 2000s it started slightly increasing. However, level of fertility of those women was much lower comparing with the beginning of 1990s. Meanwhile fertility recuperation among women at older ages (+30) observed in the end of 1990s and continued in the 2000s. As a consequence the mean age of mothers at all birth orders in 2005 increased compared with 1990 from 25.8 to 26.6 respectively. The mean age at first birth rose from 22.9 to 24.1 in the same period. However, the mean age of mothers at childbearing in the 1960s was higher than in the 2000s .

By the middle of the 1990s, signs of inevitable change in the Russian fertility pattern under discussion emerged, and arguments were made that Russia was on the threshold of the Second Demographic Transition (Zakharov and Ivanova, 1996).

It was not very long before the newest trends gathered strength and naturally debunked most of the critical remarks. Today it is impossible to doubt that the middle of the 1990s was a turning point in Russian fertility and nuptiality models. The economic growth beginning in 1999 and the consequent improvement in living standards in Russia (which today has nearly returned to the level prevailing at the start of the reform), was accompanied not so much by an increase in the birth rate, which was hoped for by the proponents of the 'crisis' interpretation of the previous decline, but more as a strengthening of the structural changes in the model of family formation (Zakharov, 2008). However, in 2009 and 2010 Russia displayed its maximum value of total fertility rate (1.5).

Family policy (current situation)

One of the main objectives of Russian family policy is the reconciliation of family life and work in the society.

Parental leave

According to the laws adopted in the Russian Federation the parental leave continues up to child's three years.

Until the child's 1.5 years the person in parental leave is granted the child rearing benefit. Since January 1, 2007 the benefit amounts to 40 % of the average earning (income) for the last 12 months for socially insured working persons. It is established the minimal and maximal benefit.

To the end of 2007 the average child rearing benefit amounts to 2369 roubles (64 €) monthly for the 1st child, 3371 roubles (91 €) monthly for the 2nd (the next) child.

For students in parental leave the child rearing benefit amounts to the minimal benefit for socially insured working persons (www.coe.int).

Since January 2008, the leaves payment shall not be below 1627 roubles (44 €) monthly for the 1st child, 3255 roubles (88 €) monthly for the 2nd (the next) child; it shall not exceed 6510 roubles (176 €) monthly.

Since 1995 the parental leave may be granted in full or partially to the child's mother, father, grandmother, grandfather, other relatives or guardian actually nursing the child. The providing the parental leave for both of parents simultaneously is not available.

Upon the request the person in the parental leave may work part-time or at home and reserve the right for the benefit.

Concerning maternity leave, a woman is provided 70 calendar days before childbirth and 70 calendar days after childbirth. The maternity leaves payment amounts to the average earning (income) for the last 12 months preceding the month when the leave starts. Since September, 2007 the leaves payment shall not exceed 23,400 roubles (632 €) per a full calendar month.

Additionally to the maternity benefit the benefit of 325 roubles (8.8 €) is granted for pregnant women registering for medical observation at earlier stages of pregnancy (less then 12 week).

In the case of multiple pregnancy the maternity leave increases from 70 to 84 calendar days before childbirth and from 70 to 110 calendar days after childbirth. In the case of abnormal birth the maternity leave increases from 70 to 86 calendar days after childbirth.

The maternity leave is estimated in total and granted to the female notwithstanding the period that she actually needs before the birth. The length of maternity leave does not depend on child's health. In the case of abnormal birth the maternity leave increases from 70 to 86 calendar days after childbirth. There is no special terms of the maternity leave for lone parents.

Baby bonus

For women having a new born the Russian government provides 8680 (235 €)[12]. There are supplementary payments to this grant in many regions of the country, normally associated with birth order. The bonus is paid for each child regardless of the employment status of the parents, to one of the parents on the choice of the family, or to the guardian (www.coe.int).

Child care benefits

This benefit is granted to one of the parents (a guardian) taking care of a child until the age of 1.5 years. Persons having a social security contract receive the allowance during the parental leave of one of the parents. The amount of the benefit equals 40% of the average wage for the preceding 12

[12] The amount fixed since 2008

months. Further the minimum and the maximum amounts are fixed by the governmental regulation. The minimum amount is 1627 roubles a month (44 €) for the first child, 3255 roubles (88 €) for the second (and each next) child. The maximum amount is fixed at 6150 roubles (176 €)[13].

Persons having no social security contract receive the minimum child care benefit (1627 roubles a month for the first child, 3255 roubles for the second and for each next child). In the case of simultaneous care for two or more children under 1.5 years the sum of the benefits is granted. The total sum can not be more than 100% of the stated average income, and less than the sum of appropriate minimum child care allowances[14].

In the regions with laid down regional factor (Siberia, Northern Regions, Far East) the amount is corrected by the factor.

The impact of the monthly child care benefit on the family income is considered as insignificant. According to the database on family policy of Council of Europe as for the July 2007, the monthly amount of the child allowance was 70 roubles in 17 subjects of the Russian Federation (1.9% of the minimum subsistence level for a child), from 74 to 90 roubles in 10 regions (2-2.4% of the minimum subsistence level for a child), 100 roubles in 22 regions (2.7% of the minimum subsistence level for a child), from 105 to 140 roubles in 21 regions (2.9-3.8% of the minimum subsistence level for a child), from 150 to 170 roubles in 6 regions (4.1-4.7% of the minimum subsistence level for a child), from 200 to 300 roubles in 6 regions (5.5-8.2% of the minimum subsistence level for a child).

As for the impact of the child care benefit, according to the experts estimates, its reforming and increase helped sufficiently to prevent spreading poverty in the scope of young families taking care of children under 1.5 years. The weight of the child care allowance is about to increase from 4 to 11% of the total income of a household, in the case of deprived families to 25%. The risk of slipping into poverty is reduced nearly by a quarter (www.coe.int).

Historical context

As the most post-socialist countries the Russian Federation experienced the considerable changes in socio-economic development of the country. After the collapse of the state socialist regime there have been no crucial changes in the profile of family policy. On the other hand the economic and political reforms which had gathered strength in the middle of the 1990s triggered the transformation of marital and reproductive behavior in the direction of an increase in the age of entry into marriage and the birth of children. However in the 1990s, no new initiatives in the area of family policy were put forward. The government supported a liberal economic model and the actions of the state in the area of social policy, under the pressure of powerful budget limitations, came down to reactive measures for ameliorating the most acute problems: pensions, unemployment and poverty. Attempts to preserve the real value of the packet of family benefits and other payments for children in conditions of high inflation were timid, delayed and on the whole extremely unsuccessful.

[13] Since 2008
[14] Since 2008

At the same time economic growth in Russia has allowed to allocate sufficiently more resources for the needs of the family policy. Along with conventional measures (like benefits), new instruments for the family policy are developed and implanted as well as the program of 'Maternity capital' is realized since 2007. A woman giving birth or adopting second (or further) child can apply for the Maternity Capital, a monetary sum, which is available for her after three years and can be invested in additional education for children, or in improving living conditions, or in additional pension for the mother.

Moreover the major initiatives of almost all political parties in the Russian Federation formulate their position toward raising benefits and providing other economic support to the family (www.coe.int).

The Republic of Kazakhstan

Kazakhstan has a large territory of 2.7 million square kilometers, making it the ninth largest country in the world. With the total population size 16.3 million (2010) decreased by 5% between 1991 and 2010. This was primarily due to emigration, reduced fertility and increased mortality, particularly among men. According to World Population Data Sheet 2010 the value of total fertility rate was about 2.7.

In the 1990s the economic turmoil of the transition to a market economy caused excessive emigration that totaled over 1.7 million. The crude birth rate steadily declined from 23 per 1000 in 1990 to 15 per 1000 in 1999. However, it has increased in recent years reaching 23 births per 1000 in 2009 (United Nations, 2010).

During the first decade of development Kazakhstan experienced the considerable changes in social and economic fields that marked negatively the demographic situation of the population. Worsening medical services, high cost of medicines and deterioration of environmental situations in the most of industrial cities all together deteriorated standards of living.

Table 8 – Main indicators of period fertility: Kazakhstan

Year	Sum of fertility rates in age groups (‰)				Share 30+ (%)	Mean age at childbearing	Mean age at first birth	TFR
	-20	20-24	25-29	30+				
1990	262	1089	721	518	20		22.4	2.6
1995	249	838	619	392	19		22.2	2.1
2000	164	664	523	494	27	26.7	23.7	1.8
2005	133	703	663	718	32	27.7	24.4	2.2

Source: www.moneeinfo.org, Kazakhstan State Statistic Agency: unpublished data

The total fertility in the 1990s showed the dramatic decline (Table 8). In the end of the 1990s it reached its historical minimum with the value of TFR about 1.8. The drop from 2.6 in 1990 to 1.8 in 2000 (below replacement level) was accompanied by overall decrease in fertility rates among women in fertile age, particularly among young. This pattern was due to postponement of childbearing until good conditions for this. However, along with the improvement in socio-economic atmosphere of the country and strengthening the certainty for the future of families about the childbearing. As a result in the middle of the 2000s the level of TFR was above replacement (2.2). Moreover the share of women above 30 year old, contributing to the TFR, rose from 20 % in

1990 to 32 % in 2005. The mean age at first childbirth reached 24.4 in 2005, while in 1990 it was less (22.4).

The amount of births increased significantly in the 2000s (TFR – 2.7 in 2010), which is explained by the high level of childbearing among women, who postponed their birth until good conditions. Additionally, women born during the baby-boom in the Soviet period of the 1980s reached their fertile age.

Family policy (current situation)

The Kazakh family policy as a part of post-soviet policy is directed to support and improve the social conditions for families. However, during the economic crisis occurred in the 1990s the measures in this field taken by the government were limited. Along with the improvement of economic conditions in the country it started to concentrate its efforts on improving social and economic conditions for the families. Kazakhstan is an unique country among the other post-soviet countries which award their mothers by the state medals that called 'Kumys alka' for those who delivered 8 children and 'Altyn alka' for mothers having 10 children. These awards allow mothers for various types of benefits on behalf of government. Since 2010 the medals are awarded to mothers having at least 7 ('Kumys alka') and 8 ('Altyn alka') children respectively. Moreover, the mothers awarded by these medals are entitled for special state benefit in the amount of 6 MCI[15] (KZT 8478 or 45 €).

Parental leave

According to Kazakh legislation maternity leave is provided 70 calendar days before childbirth and 56 calendar days after childbirth by a female employee. This may be extended to 140 days in the case of multiple births or complications during child birth. An employer is provided lump-sum grant in the amount of the average earning per month for the last 12 months for the whole period of maternity leave. When a child is adopted directly from a maternity hospital, one of the parents is granted a leave of 56 calendar days, along with a benefit from the employer, regardless of the years of his/her employment.

At the same time, for woman put to nuclear testing[16] the maternity leave benefit is granted for 170 calendar days in normal child birth and 184 calendar days in the case of complication or multiple births.

If a woman is a member of the social compulsory insurance system, she is entitled the benefit amounts to 40% of the average earning per month for the last 12 months until child's 1 year (including child adoption). In this case child care benefit is not provided.

Additionally, the one of the parents is provided the additional unpaid parental leave till child's 3 year old during which time the employer must reserve his or her work place. However, in the case of child birth during the unpaid maternity leave till child's 3 year old and would not be returning to the work place the maternity leave benefit is not granted. The parental leave benefit is

[15] MCI is a month calculating indicator which is updated annually. In 2010 it is KZT 1413 (7 €)
[16] The woman delivered a birth in extraordinary conditions: in area of nuclear tests.

not granted for those for the period of forensic medical examination, compulsory medical treatment by the court decision and who are under the arrest.

Baby bonus

The woman delivered a new born is entitled for 30 MCI (KZT 42390 or 227 €). Moreover, since 2010 for the woman delivered 4th child and each subsequent is entitled for 50 MCI (KZT 70650 or 378 €) There are supplementary payments to this bonus depending on regions (oblasts) in the Republic of Kazakhstan.

Child care benefits

The government of the Republic of Kazakhstan is provided child care benefits for the parent taking care of a child until the child's 1 year old according to the number of children (for those who are not member of social compulsory insurance system):

1st child – 5.5 MCI (KZT 7771 or 42 €) per month;

2nd child – 6.5 MCI (KZT 9185 or 49 €) per month;

3rd child – 7.5 MCI (KZT 10597 or 57 €) per month;

4th and each subsequent – 8.5 MCI (KZT 12010 or 64 €) per month[17].

At the same time the administration of each oblast is entitled to provide by additional benefits it's citizens.

Historical context

During the Soviet period, Kazakhstan's social welfare system was funded by the Soviet central government. In the early 1990s the government of a newly independent Kazakhstan started introduction of social measures including new pension, social insurance, and unemployment funds.

The reforms in social and health care systems taken in the middle of 1990s turned life conditions of each person in Kazakhstan. Consequently, some of negative population trends, such as excessive out-emigration of the labor force started to cease. Since the end of 1990s Kazakhstan began to reap the benefits of its reforms, especially the development of its natural richness as oil, gas and metallurgy industries. The increase in oil output and stable oil prices transformed the country's finances and allowed a sharp increase in budgetary resources for public sector programmes.

The social safety net system in Kazakhstan mainly consists of state social benefits, special state social benefits and Targeted Social Assistance. There are 22 types of social benefits and targeted social assistance (TSA) currently available in Kazakhstan.

State social benefits, financed from the central budget, are a part of the state social protection system and represent periodical monetary transfers to citizens in need due to disability, loss of the family breadwinner, or old age.

After reaching historical minimum in total fertility rate in 1999 with the value 1.80, government of the country pointed out the problems of fertility as a priority in state policy. In 2000 'The Concept of the State Population Policy of the Republic of Kazakhstan' was adopted by the

[17] Since 2008

government of the Republic of Kazakhstan that aimed on improving the demographic situation in the country. The administrative, economic and social measures were included to this Concept.

However later (2001) 'Program of demographic development of the Republic of Kazakhstan for the period 2001 – 2005' which emphasized the goals on increasing fertility by encouraging and improving socio-economic conditions for childbearing.

The development of policy in the field of social and financial supports for the families is divided into two periods. The first is the period of the economic crisis and social uncertainty for the future and the second period is the increasing and improvement of socio-economic conditions in the country occurring after the crisis in the 1990s.

During the second period a huge amount of measures were taken by the government. For instance, according to the state program on 'State addressed social help', this is aimed to help for the families in the promotion of their needs, the state program on 'Social support for students and pupils of full time tuition. Reduced cost for public traffic by the local representative organs decision' and 'Housing help' that directed to provide families with children by state dwellings.

The Republic of Latvia

Latvia's population has been multiethnic for centuries. In 1994, according to official estimates, Latvia had a population of 2.6 million people. This figure was smaller than for the 1989 census (2.7 million), reflecting a fundamental change in the demography of Latvia. The population in the republic decreased for the first time since 1945. However, according to UN data in 2010 Latvian population is accounted to 2.2 million people, while the value of total fertility rate was 1.3.

Two important factors have contributed to this change. During 1991, 1992, and 1993, the natural increase was negative; in other words, more people died than were born. The moving variable has been the number of live births. In 1991 the total number live births was only 34 633, which was 8.7 percent less than in the previous year and 18 percent less than in 1987. The number of deaths remained about constant. For the first time since 1946, more deaths than live births occurred in 1991.The death rate increased from 13.5 per 1,000 in 1992 to 16.3 per 1,000 in 1994, and the birth rate fell from 12.9 per 1,000 in 1992 to 9.5 per 1,000 in 1994. The postponement by many families of procreation was not surprising in view of the economic traumas suffered by most people and the general political and economic uncertainties prevailing in the country.

An even more important factor at work in the overall decrease of population has been the net out-migration of mostly non indigenous individuals. The principal factors affecting the direction of migration included Latvia's declaration of independence and its laws checking uncontrolled immigration into the country. Independence brought a shift in political power to the Latvian group. Many individuals who could not adjust to living in a newly 'foreign' country or who did not want to accommodate the new Latvian language requirements in certain categories of employment decided to leave (www.countrystudies.us).

The value of TFR in Latvia over the past decades was not high. In 1965 it was about 1.7, whereas in the middle of the 1980s it reached the replacement level.

Since independence fertility rate significantly dropped. In 1990 Latvia experienced the value of TFR about 2.0, whereas in 2005 it decreased to the value of TFR about 1.3. These trends were primarily accompanied by decrease in fertility among young women. In 1990 fertility level among young women aged -20 and 20-24 was higher than in other ages (Table 9). Whereas in the end of 1990s the share of young women in total fertility rate fell, while the share of older women (+30) in total fertility rate increased from 22 % in 1990 to 39 % in 2005. However, high share of older women (30+) delivering children were observed in the 1960s. Along with the increasing the share of older women in overall fertility the mean age of mother at childbearing rose from 25.3 in 1980 to 28.6 in 2005, while the mean age at first birth order rose from 22.9 to 25.9 in the same period.

Table 9 – Main indicators of period fertility: Latvia

Year	Sum of fertility rates in age groups (‰)				Share 30+ (%)	Mean age at childbearing	Mean age at first birth	TFR
	-20	20-24	25-29	30+				
1960								
1965	92	552	545	547	32	27.4		1.7
1970	139	735	593	549	27	26.4		2.0
1975	144	752	567	502	26	26.2		2.0
1980	200	774	522	404	21	25.3	22.9	1.9
1985	213	841	591	444	21	25.5	23.0	2.1
1990	250	820	498	432	22	25.4	22.7	2.0
1995	150	495	364	263	21	25.5	23.0	1.3
2000	92	394	399	354	29	26.7	23.7	1.2
2005	59	328	426	510	39	28.6	25.9	1.3

Source: www.euro.who.int; www.coe.int

As it was presented above decrease in fertility among Latvian women began before the collapse of socialist regime. Latvia generally has made greater progress in rebuilding its economy than Russia and the other former Soviet republics. However as well as other post-socialist countries it has experienced painful economic downturns since reestablishing independence but in the mid-1990s was showing signs of a sustained economic recovery.

Family policy (current situation)

After the collapse of the state socialist regime in Latvia, some support and programmes have been preserved from Soviet era, and some of them have been expanded. Today the main concerns of the national family policy is to provide for every family such conditions that would make it possible for those families to take care for as many children as they want. The measures are taken by the Latvian government in the field of family policy are related to the most vulnerable families subject to social exclusion, poverty.

Parental leave

According to the Latvian law every employee has the right to parental leave in connection with the birth or adoption of a child. Such leave shall be granted for a period not exceeding one and a half years up to the day the child reaches the age of eight years.

There are two kinds of parental benefit in Latvia: earnings related parent's benefit for employed (socially insured) persons and flat-rated child care benefit for unemployed (socially uninsured) persons and persons are raising children between 1 to 2 years of age.

Parent's benefit: the amount of benefit is 70% of the average gross wages upon which contributions have been paid during 12 months, but not less than LVL 63 (90 €) per month. This

12-month period applies from three months before the month of the child's birth. The benefit shall be granted to one of the parents. Parents benefit is not granted for child due to his/her birth has been granted the maternity benefit of childcare benefit for the same period.

At the same time for any woman is provided 56 calendar days of pregnancy leave of postnatal leaves are summed up and maternity benefit is 112 calendar days. The length of paid maternity leave is 16 weeks. Additionally, under specified conditions 2 weeks may be granted before and 2 weeks – after a birth. Thus the length of paid maternity leave varies between 16 and 20 weeks. The amount of maternity benefit paid during maternity leave is 100 % from person's average social insurance wage (average wage subject to insurance contributions) or earnings (gross wage). The amount of benefit does not have any ceiling (www.coe.int).

Since 2004 the father of a child is entitled to leave of 10 calendar days to be granted within a two-month period after the birth of a child. Moreover, the socially insured father who has been granted a 10 day long leave due to birth of his child is also entitled to the paternity benefit. Paternity benefit is paid in the amount of 80% from the average insurance contribution wage calculated from the six month income (for self-employed – 12 months income), from which are maid social insurance contributions.

Baby bonus

The right to the baby bonus from the eighth day of the child's life or from the day of the establishment of guardianship. The amount of bonus is LVL 296 (421 €). According to the number of children in the family supplementary benefit is granted too. It varies:

1st child – LVL 100 (142 €);

2nd child – LVL (213 €);

3rd and each subsequent child – LVL 200 (285 €) (www.coe.int).

Child care benefit

Child care benefit is provided for persons who are not employed and who are raising children under 1 year of age in the amount of LVL 50 (71 €) per month, for persons who are raising children between 1 to 2 years of age LVL 30 (43 €) per month.

At the same time, the family state benefit is provided for each child in the family from the day of birth until the age of 15 years (or 20 years, if the child continues to study) according to the total number of children in the family:

for the 1st child – LVL 8 (11 €) per month;

for the 2nd child – LVL 10 (14 €) per month;

for the 3rd child – LVL 13 (18 €) per month;

for the 4th and the following– LVL 14 (20 €) per month.

Additional payment for disabled child under 18 years of age – LVL 50 (71 €) per month.

Historical context

In Latvia until the mid-1990s there was not established common institutional basis for the family policy – it was implemented through the families' support system. In 1995 the law 'On Social Assistance' involved local governments into rendering of social services for the disadvantaged. The

development of various alternative care forms for children without parental care began with setting the need to evolve person's social functioning skills as the priority of the social assistance.

In the second half of the 1990s the main attention was paid to the establishment of social benefits' system for families with children. From 2001 'State Programme for Improvement of Children's Situation' (from 2003 – children and family) is elaborated annually accordingly to the 'Protection of the Rights of the Child Law' (adopted in 1998). The aims of the Programme included the followings:

creation friendly atmosphere for family;

support in solution of accommodation problems;

financial support for families (increasing in financial support for supplying with educational needs, free nourishment for pupils in the first forms);

support in education of family members;

support for families in critical moments;

assistance in solutions the dependence problems (drug, alcohol and game dependence) and etc.

In 2002 the government of E. Repse declared the state's priority the issues of family and children. Further in October of this year the Cabinet of Ministers accepted the concept 'State Family Policy'. This is the first and only document of such kind, which includes measures directed to the improvement situation not only for children, but also for family support. In 2004 'Action Plan for the Implementation of 'State Family Concept' for 2004 – 2013' accepted in the Cabinet of Ministers.

After 2004 some amendments to family policy were made by the government. The amount of childbirth allowance increased from 130 € to 421 € for every child. Before adoption of these amendments the mothers, which during their pregnancy had begun medical care in the establishment of medical treatment until the 12th week of pregnancy and continued it the whole pregnancy, received a double benefit 279 € but sin since the end of 2004 the amount of the allowance is equal to all (Kaupuza, 2005).

In order to continue the amelioration of demographic situation in the Ministry of Welfare of the Republic of Latvia, responding to the initiative of the Prime Minister Aigars Kalvitis, has elaborated the project of the Regulations of the Cabinet Ministers, planning to set supplementary payment to the childbirth allowance as from 2006.

From 2005 the amount of the child care benefit in Latvia is based on the parents' previous earnings.

On the other hand during the economic crisis in the end of 2000s some benefits were cur by the Latvian government.

Finally family policy remains crucial as large parts of the population in most selected countries. Analysis of family policies in terms of their dynamics and developments reveals the impact of major structural changes at a macro level, raising daunting challenges for governments and public authorities. Other important shifts relate to a growing number of, even conflicting,

objectives as well as actors, making the family policy process more complex and challenging (www.coe.int).

Table 10 – Benefits for the families with children in selected countries

Country	Duration of child birth related leave			Baby bonus	Child care benefits	Other benefits
	Parental leave	*Maternity leave*	*Paternity leave*			
United States of America		12 weeks - unpaid (5 states have paid leave)	There is no legally established paternity leave	None	No	Child tax credit
Sweden	81 weeks (68 weeks - paid), leave may be divided among parents	14 weeks - paid	2 weeks - paid	None	112 € per month and child (1 year old). Also a supplements for large families: for the 2nd child - 11 €; for the 3rd child - 39 €; for the 4th child - 95 €	None
Czech Republic	156 weeks - paid (is provided at four rates that are set at fixed monthly amounts according to duration of drawing), both parents are entitled for leave at the same time	28 weeks - paid	There is no legally established paternity leave	520 €	Depends on durationf of chosen drawing of child care benefit for a period of two, three or four years (see p.46)	Child tax credit
Russian Federation	156 weeks (78 weeks - paid, 78 - unpaid), leave may be entitled to one of the parents or guardian	20 weeks - paid	There is no legally established paternity leave	235 €	Determined in the regions. The minimum - 44 € per month and child (1.5 year old) Also a supplements for large families: for the 2nd child - 88 € and subsequent child. The maximum amount is 176 €	Child tax credit
Kazakhstan	156 weeks (52 weeks - paid only for female employee), leave may be entitled to one of the parents or guardian	18 weeks - paid	There is no legally established paternity leave	218 € (378 € - for 4th and each subsequent child)	42 € per month and child (1 year old) Also a supplements for large families: for the 2nd child - 49 €, for the 3rd child - 57 €; for the 4th child - 64 € and subsequent child	None
Latvia	52 weeks - paid, parental leave may be entitled to one of the parents	16 weeks - paid	1.4 weeks - paid, leave within a two-month period after the birth of a child	421 €	11 € per month and child (15 year old). Also a supplements for large families: for the 2nd child - 14 €; for the 3rd child - 18 €; for the 4th child - 20 €	Child tax credit

Source: www.coe.int, www.childpolicyintl.org

The way of development of family policy varies according to country's politico-economic and financial situation. The family policy in US and Sweden differs significantly. US has no explicit family policy, but it has a coherent package of social policies that are targeted on children and families (Kamerman, 2001). Whereas Swedish family policy is considered as perhaps the closest, having elaborated quite consistently the dual-earner model over various decades.

The post-socialist countries have had a long record and tradition in terms of family policy measures coming from the common socialist past. Unfortunately, due to economic crisis after the collapse of state socialist regime the countries faced a huge amount of economic obstacles that did not allow to take up the proper measures in the improvement of conditions for the families with children. However, along with the economic development the social and financial benefits for the families have improved. Today, the political establishment in all selected post-socialist countries pays a considerable measure for comprehensive development of population policy including family

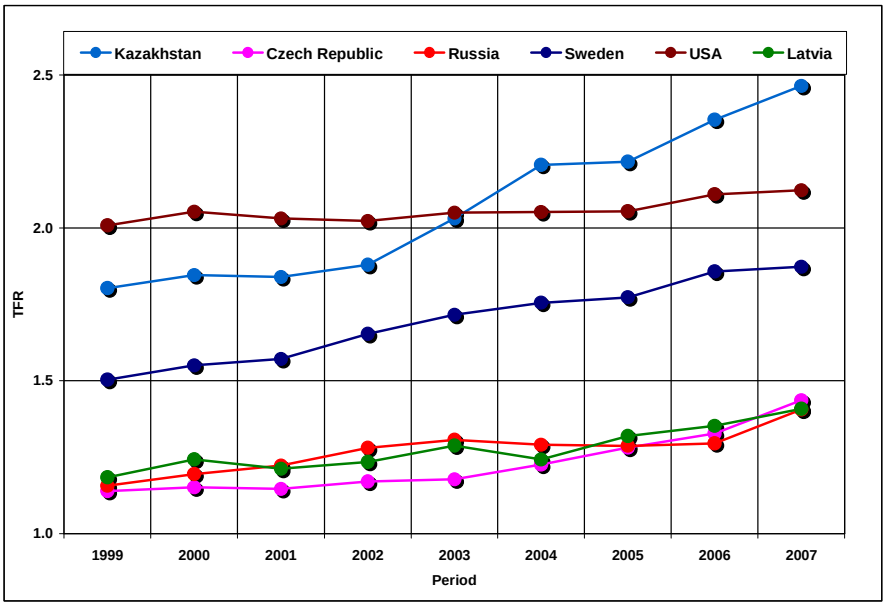
policy. Table 10 illustrates the main differences in social and economic benefits for the families with children.

2.2 Recent trends in fertility development

2.2.1 Total fertility rate and its dynamics

Looking at last decade in the development of total fertility in selected countries (Figure 4) we can distinguish two groups of countries that displayed higher and lower level of total fertility rate. During the whole studied period all post-socialist countries belonged to the group of lower level of total fertility rate. The sole exception was Kazakhstan that experienced the higher level of total fertility rate as well as Sweden and the USA and forming the group with higher level of total fertility rate.

Figure 4 – Trends in total fertility rate: selected countries 1999-2007



Source: www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

The trends of the development of total fertility rate in recent years in the post-socialist countries like the Czech Republic, Russia and Latvia were very similar. Though, Kazakhstan as the post-socialist state showed a different pattern. During the first half of the studied period Kazakhstan showed the lower level of total fertility rate than in the USA. But in the second part it displayed the significant increase in the level of total fertility rate as well as Sweden, whereas the USA experienced the moderate fertility growth. Substantial fertility increase in Kazakhstan and Sweden was observed due to postponed childbearing. However that increases in Kazakhstan, Sweden and slight changes in fertility development in the USA gradually reduced the differences among them.

At the same time the slight increase in the development of total fertility rate occurred in the countries (post-socialist) with lower fertility rate was associated by the recuperation of women at

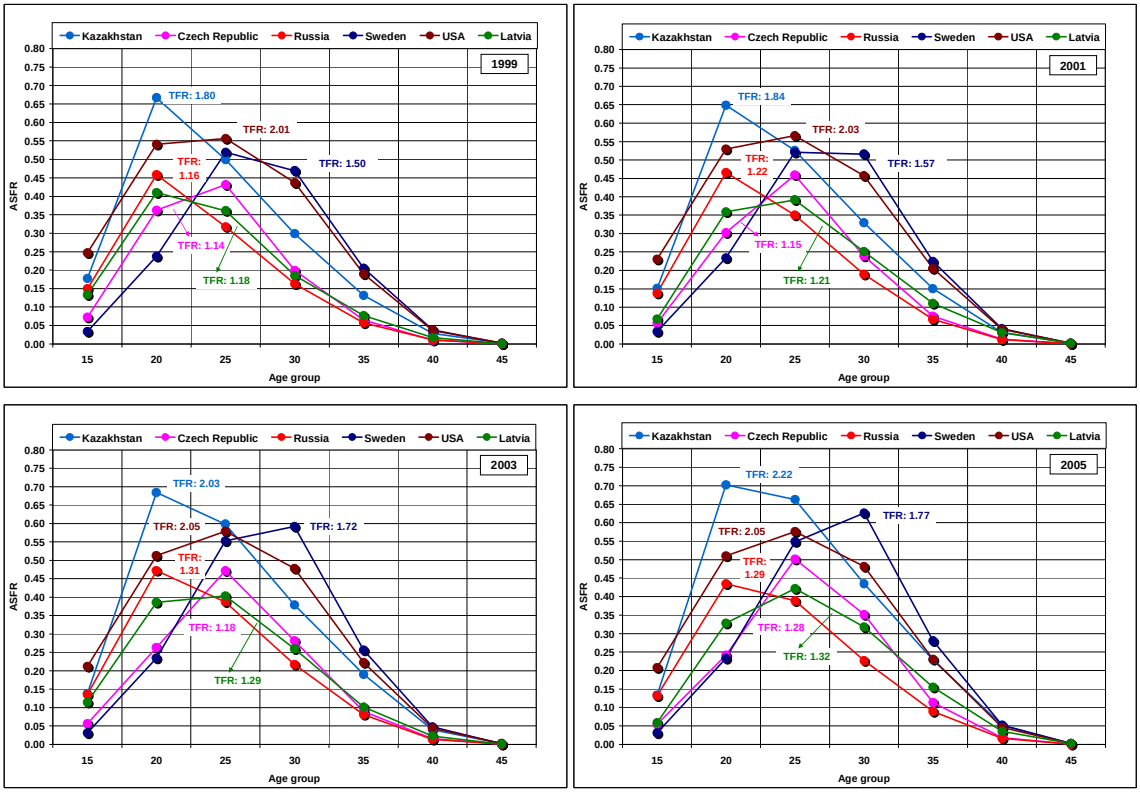
childbearing ages. However during the 1990s after the collapse of the socialist regime they faced with the radical changes in reforming of the social and economic systems that negatively reflected on fertility behavior of women.

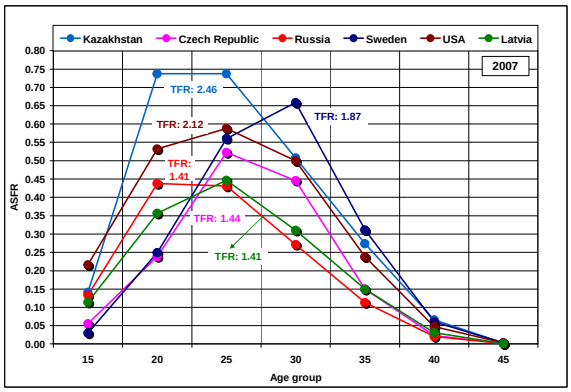
When comparing the beginning (1999) and the end (2007) of the studied period the lowest fertility values were observed in 1999, while the highest TFR was achieved in all selected countries in 2007. Therefore, all selected countries showed a fertility growth with different speed.

2.2.2 Fertility development by age structure and birth orders

The age-specific fertility rates give a more detailed view on fertility according to age. A comparison of the age-specific fertility rates in all countries in selected years can be seen in Figure 5. In 1999 the age structure of fertility in all post-socialist countries was similar. The sole exception was the Czech Republic that had higher fertility rate in older ages. The USA with its highest level of total fertility rate had a considerable part of fertility level in the age of roughly 20 – 25 years. Whereas a big part of fertility in Sweden was concentrated mostly in the higher age groups.

Figure 5 – Age-specific fertility rate development: selected countries 1999, 2001, 2003, 2005 and 2007





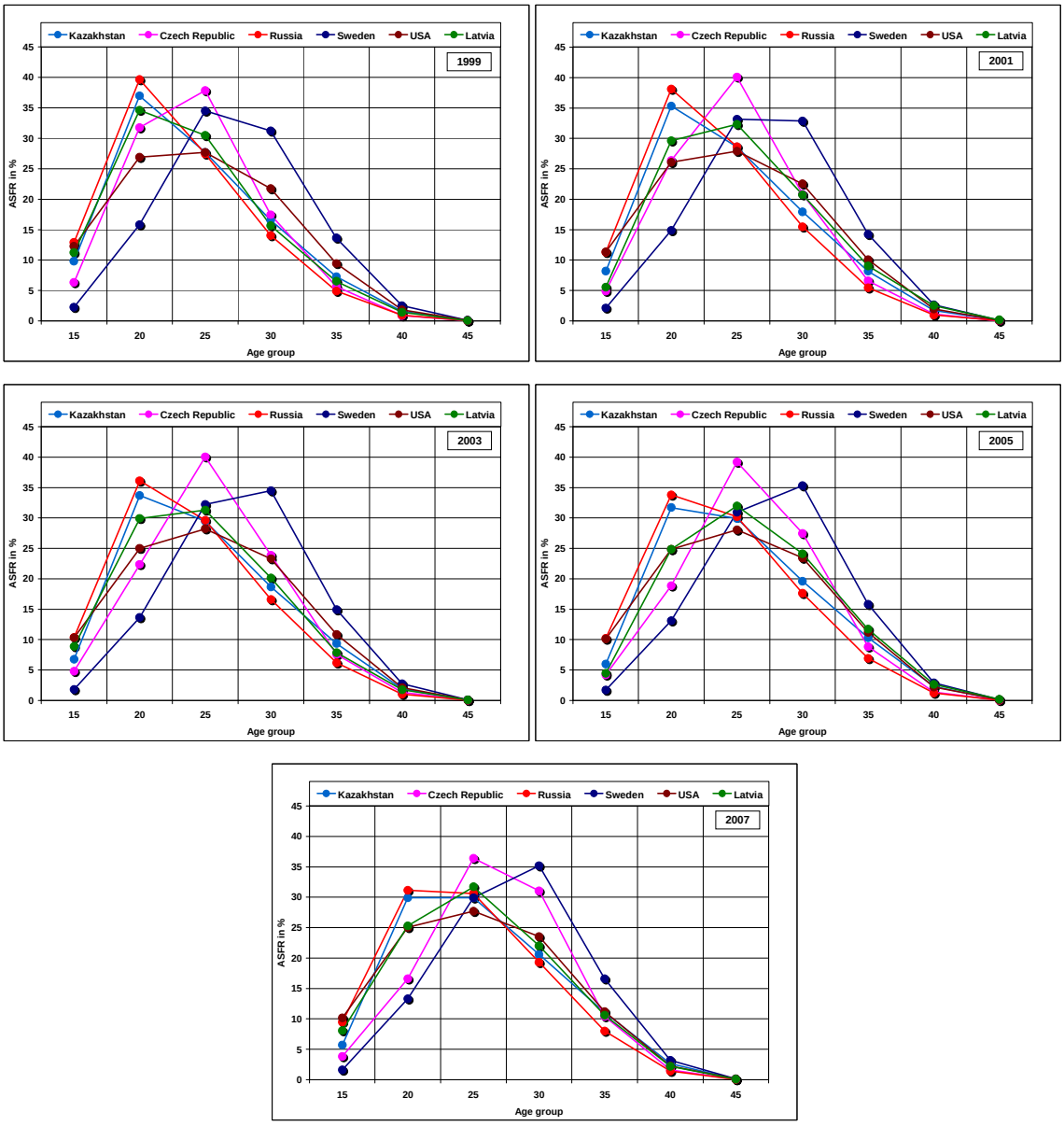
Source: Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

In 2001 the picture did not change significantly. After 2003 all selected countries continued their shift of the fertility towards higher age groups. The rapid growth of fertility in the higher age groups occurred in Sweden and the USA. However, in 2005 the reproductive behavior of Kazakh women changed and they drew closer to that of Swedish women. First of all, there was a marked rise in the fertility of older women, who postponed their pregnancy until the better conditions. In later, this process gradually continued its movement. The process described took place also in all countries, where total fertility rate continued to increase. In 2007 the age-specific fertility rates of Czech women up to the age group 25 – 29 were already comparable with the fertility level of US and Swedish women and palpably lower than the fertility of Kazakh women. Therefore timing of fertility process has become an acute issue of the modern trend in fertility of all selected countries.

Figure 6 depicts the share of individual age groups in total fertility rate of selected countries. In 1999 all post-socialist countries displayed similar share of total fertility rate in the young age group 20 – 24 (approximately 35 – 40%) with the exception of the Czech Republic that showed big share in the age group 25 – 29 (38%). While the western countries experienced different patterns. Swedish women in the age groups 25 – 29 and 30 – 34 delivered more children (35% and 31% respectively) than their counterparts in the USA (28% and 22%). US women preferred to give a birth in young ages (20 – 24, 25 – 29) and also the share of age-specific fertility rate was the highest in those age groups (27% and 28% respectively).

At the same fertility timing in Latvia and the Czech Republic started to shift to the older ages in later period. So among all selected countries the Czech Republic experienced the highest share in the age group 25 – 29 (40%). Whereas Kazakh and Russian women continued to keep their position of a big share in the age group of 20 – 24. However, Latvian women began to give more births in two age groups 20 – 24 and 25 – 29 (30% and 32% respectively). The pattern occurred in Latvia was similar to the USA, where the women in the same age groups shared 26% and 28% of the total fertility rate. Sweden kept its position with the value of 33% in both age groups (25 – 29 and 30 – 34).

Figure 6 – Relative age-specific fertility rate development (in percentages): selected countries 1999, 2001, 2003, 2005 and 2007



Source: Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

In 2003 the picture did not changed significantly. However, all selected countries continued a moderate increase in the share of total fertility rate towards older ages. The sole exception was Latvia that displayed slight stagnation.

On the other hand in 2005 Kazakh and Russian women showed the considerable share of total fertility rate not only in young ages (20 – 24), but also in older ages (25 – 29) with the values of 32 – 34% and 30% respectively. While the Czech Republic continued to display the highest share in the age group 25 – 29 (39%), whereas the share of age-specific fertility rate among women

in the age group 30 – 34 increased from 17% in 1999 to 27% in 2005. At the same time Latvia experienced its highest share in the age group 25 – 29 (32%) with the decreasing of share in the young ages (20 – 24) and increasing in the old ages (30 – 34). Whereas Sweden and the USA kept their position at the previous level.

At the end of the studied period (2007) all selected countries experienced the same share of total fertility rate in the age group 25 – 29 (roughly 30%) with the exception of the Czech Republic that displayed in this age group the level of 36%. However, the patterns occurred in all selected in 2007 were very similar with the patterns in 2005.

As a result of these trends the increase of the share of total fertility rate in old ages was primarily related to the fertility decrease among women aged 20 – 24. The share of age-specific fertility rate among women in the age group 25 – 29 also did not changed considerably. Whereas the proportion of women delivered children in the age group 30 – 34 rose significantly. For instance, the share of Kazakh and Czech women in these ages were 17% in 1999, but it reached 21% and 31% respectively in 2007. Whereas their counterparts in Latvia and Russia displayed an increase from 16% and 14% in 1999 to 22% and 19% respectively in 2007. However, the proportion of age-specific fertility rate among women in the same age group in Sweden and the USA also rose, but more slowly (from 31% and 22% to 35% and 24% respectively). As a consequence, the share of total fertility rate since 1999 in the group 25 – 29 and 30 – 34 is higher when compared to that of the age group 20 – 24.

These findings are clearly shown in Table 11, where the certain ratios were calculated. The ratio depicts the changes whether young women aged less than 29 or women aged older than 30 displayed a high share in total fertility rate. As decreasing the value of the ratio the older mothers experienced their high share in total fertility rate.

During the whole studied period all selected countries experienced different patterns of the age structure of fertility. In the beginning of the studied period (1999) Russian women displayed the youngest age structure of fertility among all selected countries and remained in this position until 2007. At the same time all post-socialist countries experienced the higher share of mothers aged less than 29 in total fertility rate. While the proportion of US and Swedish mothers aged more than 30 years shared a high proportion in total fertility rate. Table 11 shows that all post-socialist countries displayed their highest value of the ratio until 2004, but in 2005 the positions of Latvia and the Czech Republic were replaced by the younger mothers from the USA. However, after one year (in 2006) Latvia returned its 3rd position and remained in this position until the end of the studied period (2007) with the value of ratio 1.9. As a consequence all selected countries experienced the decreasing the value of the ratio which is determined as increasing the share of older women in total fertility rate. Whereas in 1999 Kazakh women aged less than 29 were being 4th state among countries shared the younger age structure of fertility became the 2nd in the end of the studied period (2007). However in 2007 the Czech Republic was in the 5th position among 6 selected countries shared the younger age structure of fertility while it was in the 3rd position in the beginning of the studied period (1999).

Table 11 – Changes in fertility age profile in 1999 – 2007

1999	ASFR(-29)	ASFR(30+)	TFR	RATIO	Correlation
Russia	0.93	0.23	**1.2**	**4.0**	
Latvia	0.90	0.28	**1.2**	**3.2**	
Czech Republic	0.87	0.27	**1.1**	***3.2***	**-0.56**
Kazakhstan	1.34	0.46	**1.8**	**2.9**	
USA	1.34	0.67	**2.0**	***2.0***	
Sweden	0.79	0.71	**1.5**	**1.1**	

2000	ASFR(-29)	ASFR(30+)	TFR	RATIO	Correlation
Russia	0.94	0.25	**1.2**	**3.8**	
Czech Republic	0.85	0.30	**1.2**	***2.9***	
Latvia	0.92	0.32	**1.2**	**2.8**	**-0.52**
Kazakhstan	1.35	0.49	**1.8**	**2.7**	
USA	1.36	0.70	**2.1**	***2.0***	
Sweden	0.81	0.74	**1.6**	**1.1**	

2001	ASFR(-29)	ASFR(30+)	TFR	RATIO	Correlation
Russia	0.95	0.27	**1.2**	**3.6**	
Kazakhstan	1.33	0.51	**1.8**	**2.6**	
Czech Republic	0.82	0.33	**1.1**	***2.5***	**-0.36**
Latvia	0.82	0.39	**1.2**	**2.1**	
USA	1.33	0.70	**2.0**	***1.9***	
Sweden	0.79	0.78	**1.6**	**1.0**	

2002	ASFR(-29)	ASFR(30+)	TFR	RATIO	Correlation
Russia	0.99	0.29	**1.3**	**3.3**	
Latvia	0.88	0.36	**1.2**	**2.5**	
Kazakhstan	1.33	0.55	**1.9**	**2.4**	
Czech Republic	0.81	0.36	**1.2**	***2.3***	**-0.46**
USA	1.31	0.72	**2.0**	***1.8***	
Sweden	0.82	0.84	**1.7**	**1.0**	

2003	ASFR(-29)	ASFR(30+)	TFR	RATIO	Correlation
Russia	0.99	0.31	**1.3**	**3.2**	
Latvia	0.90	0.38	**1.3**	**2.3**	
Kazakhstan	1.42	0.61	**2.0**	***2.3***	**-0.39**
Czech Republic	0.79	0.39	**1.2**	***2.0***	
USA	1.30	0.75	**2.0**	**1.7**	
Sweden	0.82	0.90	**1.7**	**0.9**	

2004	ASFR(-29)	ASFR(30+)	TFR	RATIO	Correlation
Russia	0.98	0.31	**1.3**	**3.1**	
Latvia	0.86	0.39	**1.2**	**2.2**	
Kazakhstan	1.51	0.70	**2.2**	***2.2***	**-0.35**
Czech Republic	0.79	0.43	**1.2**	***1.8***	
USA	1.30	0.76	**2.1**	**1.7**	
Sweden	0.82	0.94	**1.8**	**0.9**	

2005	ASFR(-29)	ASFR(30+)	TFR	RATIO	Correlation
Russia	0.95	0.33	**1.3**	**2.9**	
Kazakhstan	1.50	0.72	**2.2**	***2.1***	
USA	1.29	0.76	**2.1**	**1.7**	**-0.18**
Czech Republic	0.80	0.48	**1.3**	***1.6***	
Latvia	0.81	0.51	**1.3**	**1.6**	
Sweden	0.81	0.96	**1.8**	**0.8**	

2006	ASFR(-29)	ASFR(30+)	TFR	RATIO	Correlation
Russia	0.95	0.34	**1.3**	**2.8**	
Kazakhstan	1.56	0.79	**2.4**	***2.0***	
Latvia	0.89	0.46	**1.4**	**1.9**	
USA	1.33	0.78	**2.1**	**1.7**	**-0.27**
Czech Republic	0.79	0.54	**1.3**	***1.5***	
Sweden	0.84	1.02	**1.9**	**0.8**	

2007	ASFR(-29)	ASFR(30+)	TFR	RATIO	Correlation
Russia	1.00	0.40	**1.4**	***2.5***	
Kazakhstan	1.62	0.85	**2.5**	***1.9***	
Latvia	0.92	0.49	**1.4**	**1.9**	**-0.13**
USA	1.34	0.79	**2.1**	**1.7**	
Czech Republic	0.82	0.62	**1.4**	**1.3**	
Sweden	0.84	1.03	**1.9**	**0.8**	

Source: Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

Note: Where Ratio is calculated by formula: ASFR(-29)/ASFR(30+). Pearson coefficient of correlation was defined between the variables of TFR and Ratio

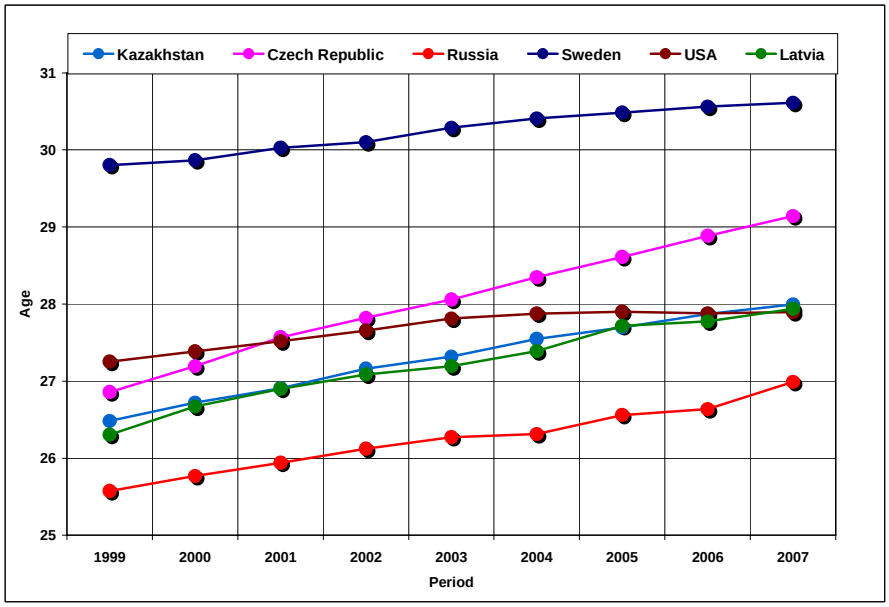
In addition the correlation between the variables of ratio and total fertility rate is clearly seen in that Table 11 too. The closer the value of correlation coefficient to – 1 the stronger the negative correlation between ratio and total fertility rate meaning that total fertility rate increases when the fertility structure becomes older, as closer to 0 the stronger independence of the variables. As Table 11 depicts that during the whole period the correlation of the variables became more less. In 1999 the value of coefficient of correlation was – 0.56, whereas in 2001 it was – 0.36. However one year later (in 2002) the value was – 0.46, which was determined as strengthening the dependence of total fertility rate on ratio. As decreasing of the value of coefficient correlation in further years as variables became more independent. In 2007 it reached the value of – 0.13 which determined as weakening trend in correlation between the variables.

2.2.2 Mean age of mothers at childbirth and birth orders

Further we will analyze the development of the structure of fertility according to age in the studied period. One of the characteristics of the structure of fertility is the mean age of mothers (Figure 7). The mean age of mothers in all selected countries increased. The exceptions were the rapid changes

in the mean age of mothers in Latvia in 2005 and the moderate reduction in the USA during 2005 – 2006 in comparison with the previous years. In 1999 the mean age of mothers in the Czech Republic was 26.9, but further growth was, however, strikingly faster than in other countries, so that mean age of mothers in the Czech Republic was moving closer to the Swedish level and further away from the other selected countries. The fact that during the whole studied period the mean age of mothers at all birth orders was also higher in Kazakhstan than in Russia, associated particularly by the fact that in Kazakhstan relatively more children of higher birth order were born.

Figure 7 – Mean age of mothers at childbirth: selected countries, 1999 – 2007



Source: Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data
Note: Calculated from the ASFR distribution

Concerning the individual birth orders we see that the values of the mean age of mothers of all monitored period in the USA were relatively stable (Figure 8). At the same time, Swedish women bore children of the appropriate birth order roughly a year and a half later than the nearest neighbor of Czech women. The exception was the mean age of mothers of the 5th and higher birth orders, where Kazakh women delivered relatively more children of the 6th and higher birth orders.

During the whole studied period the value of the mean age of mothers at first birth order was approximately higher in Sweden for two and three years. However, Kazakhstan and Russia experienced the lowest one. Whereas the mean age of the US mothers in the middle of 2000s started its moderate stagnation. The increase of this value in the Czech Republic was faster and began exceeding the level of the USA.

Figure 8 depicts that difference of the mean age of mothers at the second birth order between countries lowered. The levels of the mean age of mothers in all selected countries significantly increased approximately by three years. The value of the USA became the lowest one and closer to the level of Kazakh mothers. However, in comparison with the values of the mean age

of mothers at first birth order in Latvia and Russia the difference of theses values at second birth order roughly reached 4 and 5 years. It again could be explained by the fact that Latvian and Russian women delivered relatively more children in higher birth orders.

The mean age of mothers at third birth order rose in all selected countries. But, after 2005 the level of the mean age of mothers in the USA started to stagnate. Therefore, its level was the lowest among the countries. Meanwhile, the mean age of mothers in the Czech Republic and Latvia reduced the differences to minimum with the level of Swedish mothers. The rapid change of the values of the mean age of Latvian mothers continued. However, the younger mothers among post-socialist countries were still remained in Kazakhstan.

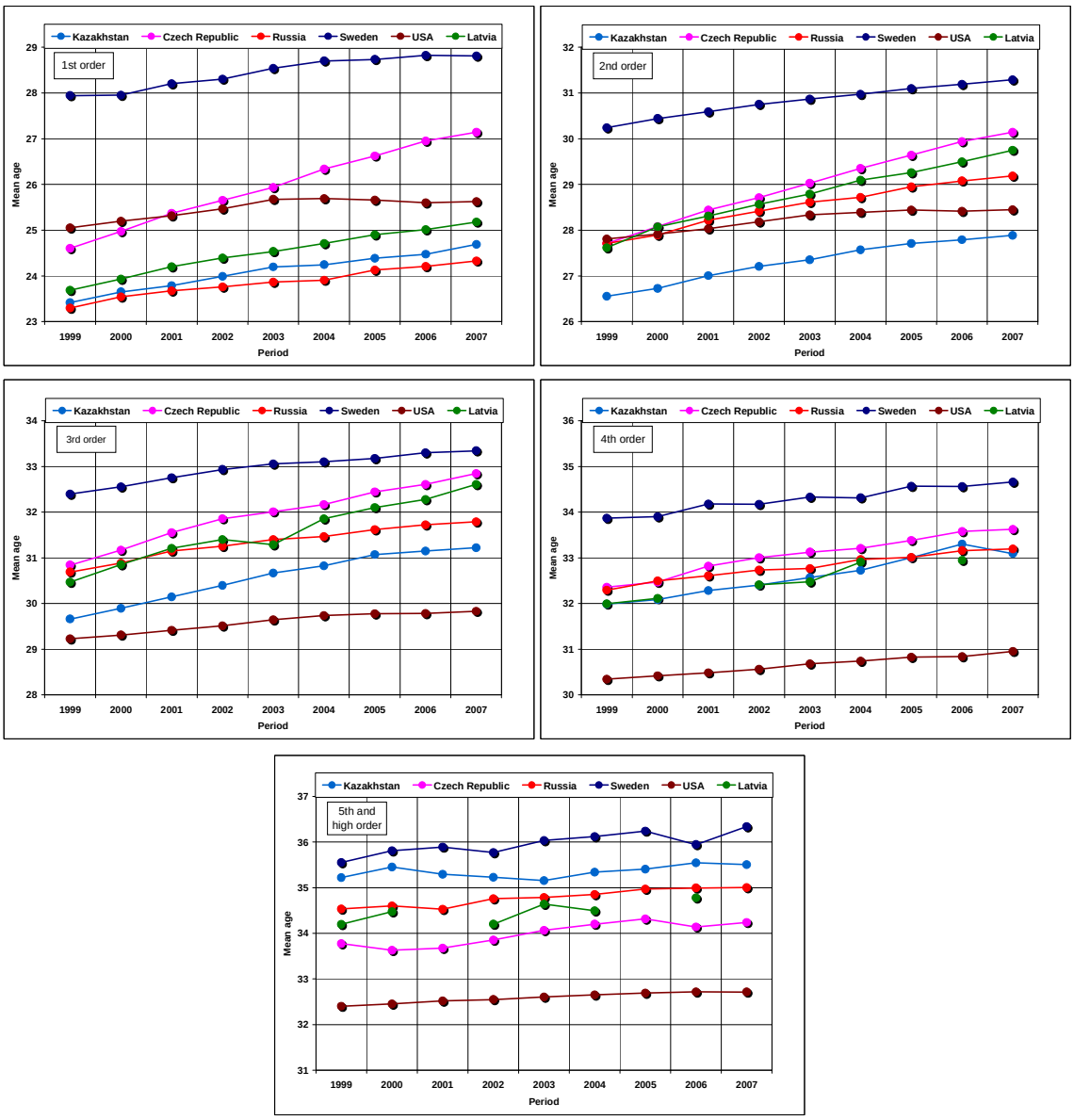
During the whole studied period the mean age of mothers at fourth birth order in all post-socialist countries increased. However, in Sweden and the USA the moderate increase continued until 2005 and then it was replaced by some stagnation and subsequent growth. Whereas the USA and Sweden displayed the highest and lowest fertility level respectively of this value among all selected countries.

The interesting picture occurred in the mean age of mothers at fifth and higher birth orders. The level of this value in all post-socialist countries increased with some instability, therefore they became much more closer to the Swedish level. However, the mean age of mothers in Sweden and the USA were still remained the highest and lowest one respectively. Whereas the value of the mean age of Kazakh mothers was moving away from all countries level and closer to Swedish mothers. The reason of such special case was that in Kazakhstan relatively more children of the fifth and higher birth orders were born than in other post-socialist countries. On the other hand, the increase of the mean age of mothers in Kazakhstan was not as significant as previous birth orders.

We can see that in the period until 2002 the values of the mean age of mothers for the fifth birth order in Sweden and Kazakhstan were comparable. In 2003 there were moderate shift in fertility towards a younger age, but later, on the contrary, the shift of fertility to a late age with the exception of Swedish level in 2006.

The birth order-specific analysis presented above offers a vastly different portrait of fertility levels and trends in the group of post-socialist countries and western countries of Sweden and the USA than the commonly used fertility indicators.

Figure 8 – Mean age of mothers at childbirth according to birth order: selected countries, 1999 – 2007

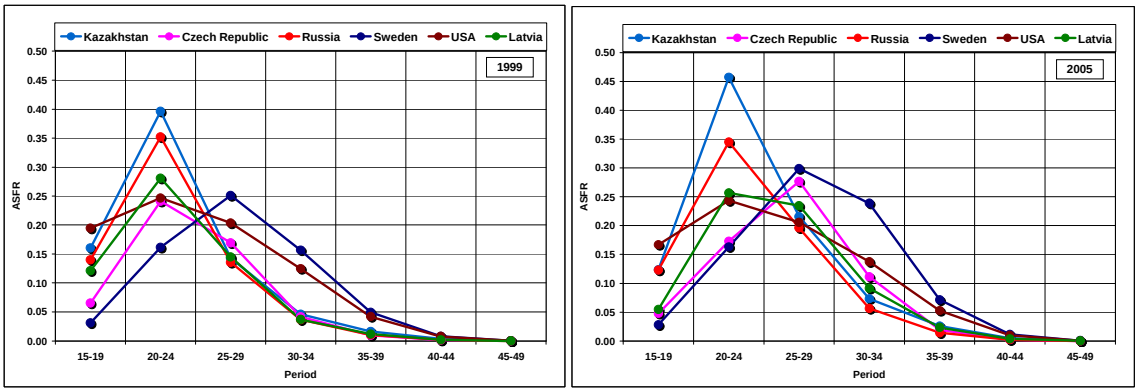


Source: Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

Note: Calculated from the ASFR distribution

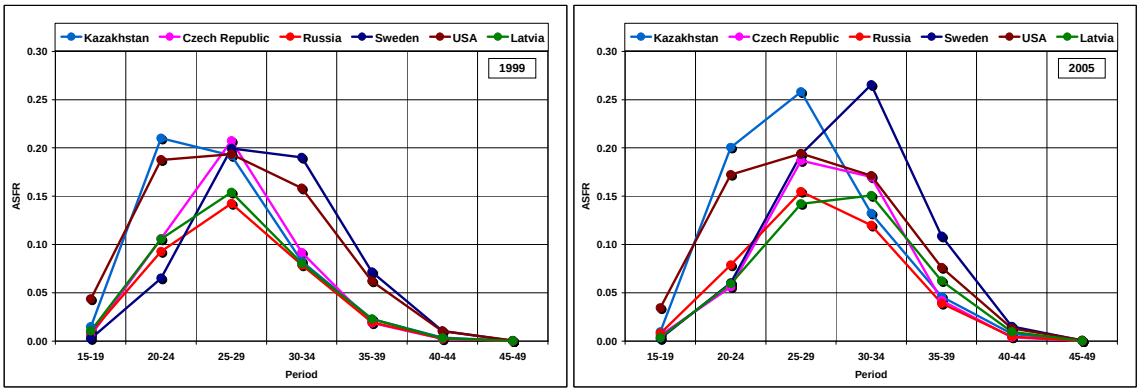
The whole European countries experienced a general trend towards convergence in the overall fertility level and in the timing of fertility. Whereas Kazakhstan and the USA displayed the same trend towards convergence with each other. Nevertheless, several contrasts characterized their birth order-specific fertility patterns.

Figure 9 – Age-specific fertility rate development of the 1st birth order: selected countries 1999, 2005



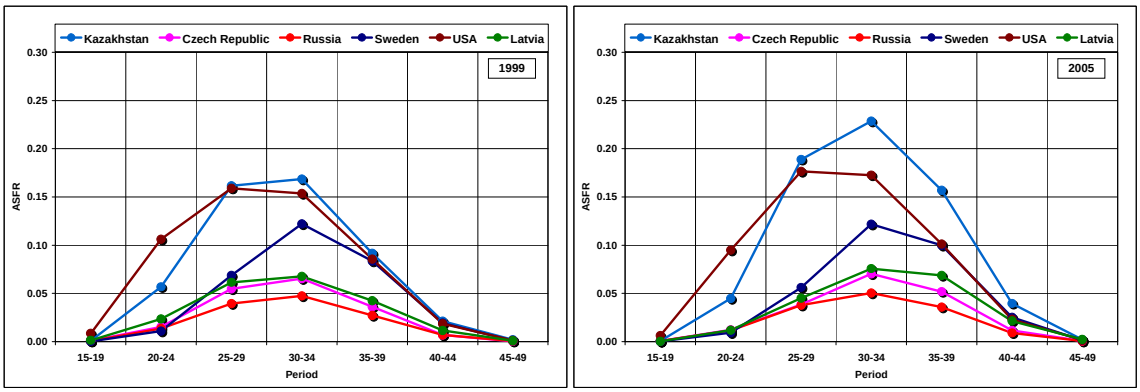
Source: Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

Figure 10 – Age-specific fertility rate development of the 2nd birth order: selected countries 1999, 2005



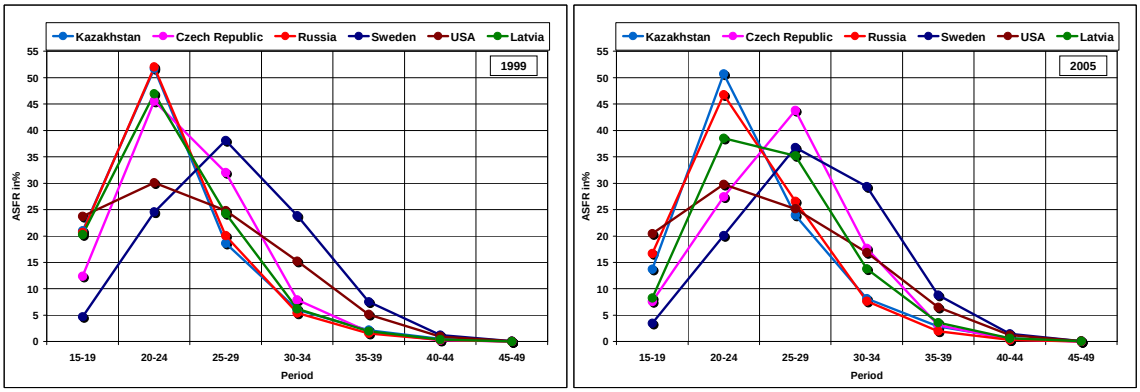
Source: Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

Figure 11 – Age-specific fertility rate development of the 3rd and higher birth orders: selected countries 1999, 2005



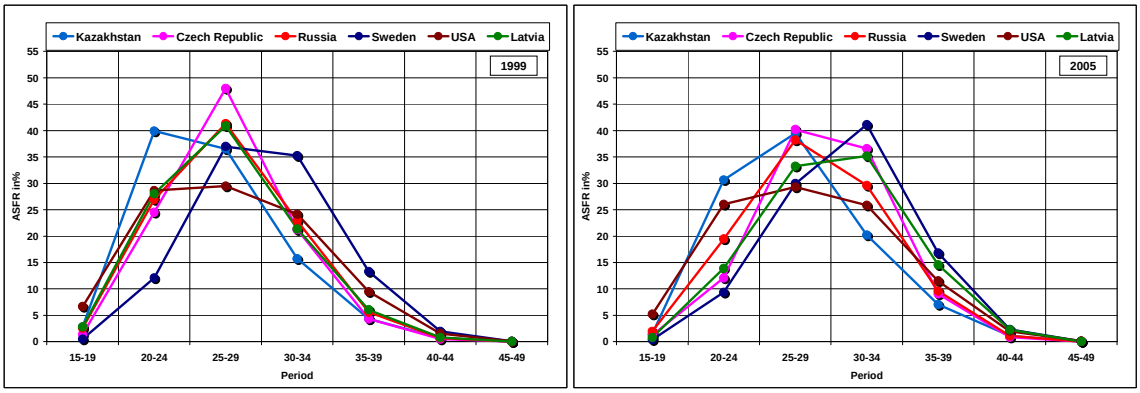
Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

Figure 12 – Relative age-specific fertility rate development of the 1st birth order (in percentages): selected countries 1999, 2005



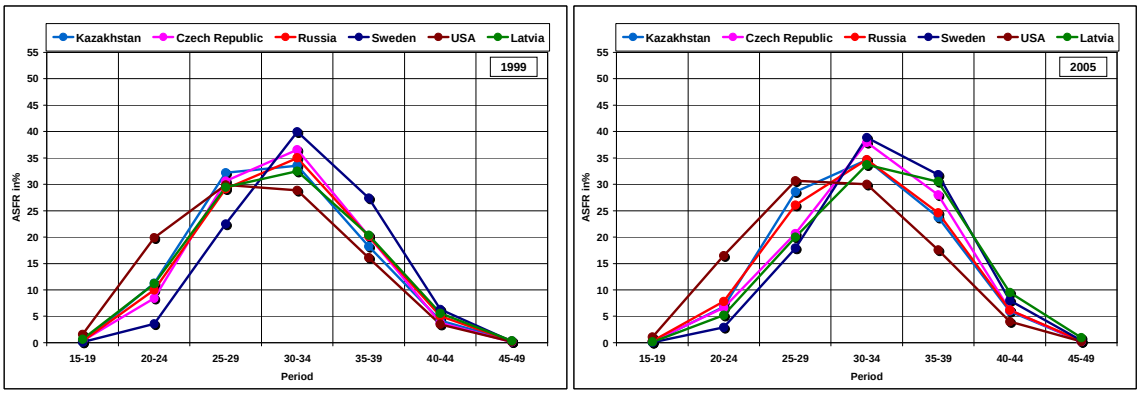
Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

Figure 13 – Age-specific fertility rate development of the 2nd birth order (in percentages): selected countries 1999, 2005



Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

Figure 14 – Age-specific fertility rate development of the 3rd and higher birth orders (in percentages): selected countries 1999, 2005



Source: Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

Women in Kazakhstan, Sweden and the USA retained relatively high first birth rates, but they experienced different age-specific fertility rate of the third and higher birth orders, where

Sweden level was very low, but considerably higher among the women in the other post-socialist countries. Kazakh and Russian delivered a child at younger age than the women of other selected countries, while the women of all selected countries progressively postponed not only the birth of their first child, but also of their second and third children (Figures 9, 10 and 11).

The share of individual age groups in total fertility rates of the 1st, 2nd, 3rd and higher birth orders of selected countries are clearly seen in Figures 12 – 14. In the beginning of the studied period (1999) all post-socialist countries displayed the highest share of the total fertility rate of the 1st birth order in the young age group 20 – 24 (roughly 50%). Whereas Sweden and the USA showed different patterns. The proportion of Swedish women in the age group 25 – 29 in the total fertility rate of the 1st birth order was 32%. While their counterparts in the USA delivered only 25% of all births of the 1st order in this age-group. However, the USA displayed its big proportion in the young age group 20 – 24 (30%), which was similar to the patterns of the post-socialist countries. On the other hand, Czech women displayed a considerable share in the old age group 25 – 29 (32%), which was closer to the value of Swedish women in the same age group (38%).

In 2005 the picture changed due to the significant increase in the share of women in the old ages. Kazakhstan and Russia displayed their highest share in the age group 20 – 24 (roughly 50%). However, the increase in the share of birth rates in Kazakhstan and Russia in the age group 25 – 29 from 19% and 20% in 1999 to 24% and 27% respectively was primarily caused by the fertility decrease of the 1st birth order among young women aged 15 – 19 from 21% to 14% and 17% respectively in 2005. At the same time the Czech Republic and Latvia experienced a shift from young ages towards old ages. The increase in the share of total fertility rate of the 1st birth order among Czech and Latvian women aged 25 – 29 from 32% and 24% in 1999 to 44% and 35% respectively in 2005 was caused by the fertility decrease among women in the age groups 15 – 19 and 20 – 24. Whereas Swedish and US women showed the same patterns as in 1999, with a small exception of Swedish women aged 30 – 34, who increased their share from 24% in 1999 to 29% in 2005.

On the other hand in the beginning of the studied period (1999) a high share of the total fertility rate of the 2nd birth order made up the women in the age group 25 – 29 of all selected countries. The sole exception was Kazakhstan, where the share of the women in this age group (37%) was less than the women aged 20 – 24 (40%). At the same time Sweden and the USA shared the proportion of birth rate among the other ages. For instance, the USA displayed a considerable share of fertility rate in three age groups 20 – 24 (29%), 25 – 29 (29%) and 30 – 34 (24%). Whereas the proportion of Swedish women delivered the 2nd birth was high in two age groups 25 – 29 (37%) and 30 – 34 (35%).

The considerable shift in the proportion of the women delivered their 2nd birth towards old ages was observed in the end of the studied period. In 2005 the almost a high share of the total fertility rate of the 2nd birth order made up the women aged 25 – 29. Such pattern occurred in all selected countries with the exception of Sweden and Latvia that experienced their high share in the age group 30 – 34 (41% and 35% respectively). However, the share of Czech women delivered the

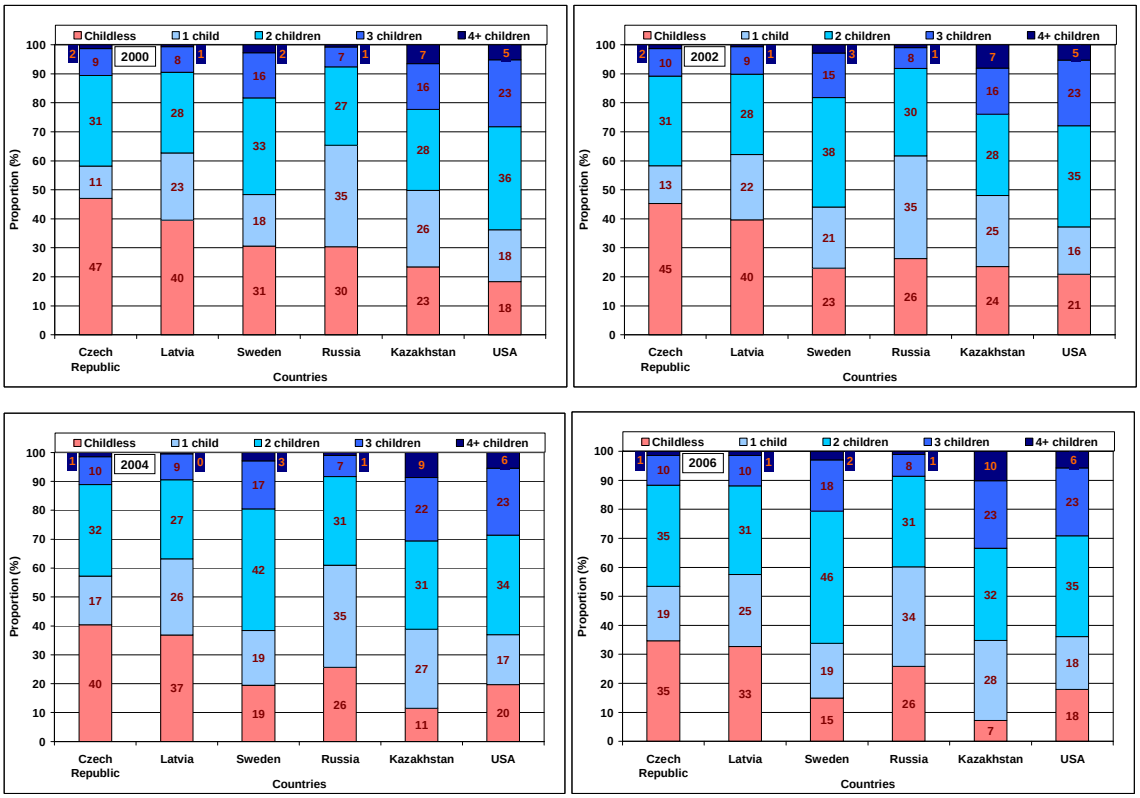
2nd birth in 2005 in this age group was 37% which was the highest value among all post-socialist countries. The increase in the share of Czech women in the age group 30 – 34 from 21% in 1999 to 37% in 2005 was caused by the fertility decrease among young women aged 20 – 24 from 25% in 1999 to 12% in 2005.

As the women of selected countries during the whole studied period experienced a high share of the total fertility rate of the 1st and 2nd birth orders relatively in young ages the proportion of the women delivered their 3rd birth was more concentrated in old ages. In 1999 a high share of the total fertility rate of the 3rd and high birth orders were among women aged 25 – 29 and 30 – 34. This pattern occurred in all selected countries with the sole exception of Sweden that displayed its highest share in the 30 – 34 age group (40%). At the same time the share of birth rate of Swedish women delivered the 3rd and more births in the age groups 20 – 24 and 35 – 39 was the lowest and highest among all selected countries (4% and 27% respectively). Whereas US women experienced the highest share of the total fertility rate of the 3rd and higher birth orders in the young ages 20 – 24 (20%) and lowest in the age group 30 – 34 (29%) among all selected countries. During the whole studied period the share of the total fertility rate of the 3rd and higher birth orders shifted towards old aged women. In 2005 the increase in the proportion of the women delivered their 3rd and more births in the age group 35 – 39 in all selected countries was caused by the decrease of the share among young women aged 20 – 24 and 25 – 29. The significant decrease was observed among Czech, Latvian and Swedish women in the age group 25 – 29. Whereas the fertility patterns among Kazakh and US women in this age-group changed less, from 32% and 30% in 1999 to 29% and 31% respectively in 2005. The share of the birth rate among women aged 35 – 39 significantly increased in the Czech Republic and Latvia from 20% in 1999 to 28% and 31% respectively in 2005. As a consequence of these trends in the fertility behavior of the women among selected countries the process of the convergence in post-socialist countries with the western countries has started.

2.2.3 Hypothetical family composition and parity progression ratios

Figure 15 features a hypothetical family size composition which was a result from the birth order-specific trends of selected years. However the indicators calculated are cross sectional. Therefore the changes in birth rates by birth order had a considerable impact on changing in the proportion of women according to their number of children. The figure described the patterns in 2006 of the studied period displayed more real picture of the current patterns in selected countries. In 2000 US and Kazakh women displayed the highest share of larger families (28% and 22% respectively with 3 and more children), while US and Swedish women stood out for a high proportion of families with two children (36% and 33% respectively) and relatively low childlessness occurred in the USA (18%). Russian women displayed a fairly high share of families with one child (35%). At the same time the Czech Republic and Latvia showed the highest proportion of childless women (47% and 40% respectively). The family with one child was less popular in the Czech Republic (11%).

Figure 15 – Percentage of women according to birth order: selected countries 2000, 2002, 2004 and 2006



Source: Author's calculations based on total fertility rates by birth order; data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

In 2002 the portrait of the patterns in the most of selected countries did not changed significantly. However Sweden and Russia dropped their proportion of childless women from 31% and 30% in 2000 to 23% and 26% respectively. In 2004 the popularity of two child families increased considerably in all selected countries. The sole exception was the USA that showed some stagnation in the comparison with the previous years. As a consequence the patterns in all selected changed towards reduction of childless women and rising of larger families. The significant reduction in the proportion of childless women was occurred in Kazakhstan, Sweden and the Czech Republic that displayed drop from 23%, 31% and 47% in 2000 to 7%, 15% and 35% in 2006. Due to the reduction of the share of childless women in the Czech Republic the proportion of Czech women with one child increased from 11% in 2000 to 19% in 2006.

The popularity of two child families during the studied period also continued to develop in all selected countries. In the beginning of the studied period (2000) US and Swedish women showed the highest share of two child families (36% and 33% respectively). However, in 2006 they shares that place with Czech women (35%). While the significant increase in the share of women with two children occurred in Sweden that displayed rise from 33% in 2000 to 46% in 2006.

Kazakhstan and the USA remained in the top position of women having 3 and more children. Moreover they strengthened their position due to increase in the share of those women from 22% and 28% in 2000 to 33% and 29% respectively.

These findings are in agreement with some long-standing fertility patterns in these countries of previous years, such as a strong orientation towards a two-child family model in Sweden and the Czech Republic and a higher share of larger families in Kazakhstan and the USA. In Kazakhstan, however they constituted a departure from the previous family model, and imply a pronounced increase the proportion of two and three children families on account of a declining proportion of childless women. It remains to be seen whether this is a temporary trend or real shift in family patterns.

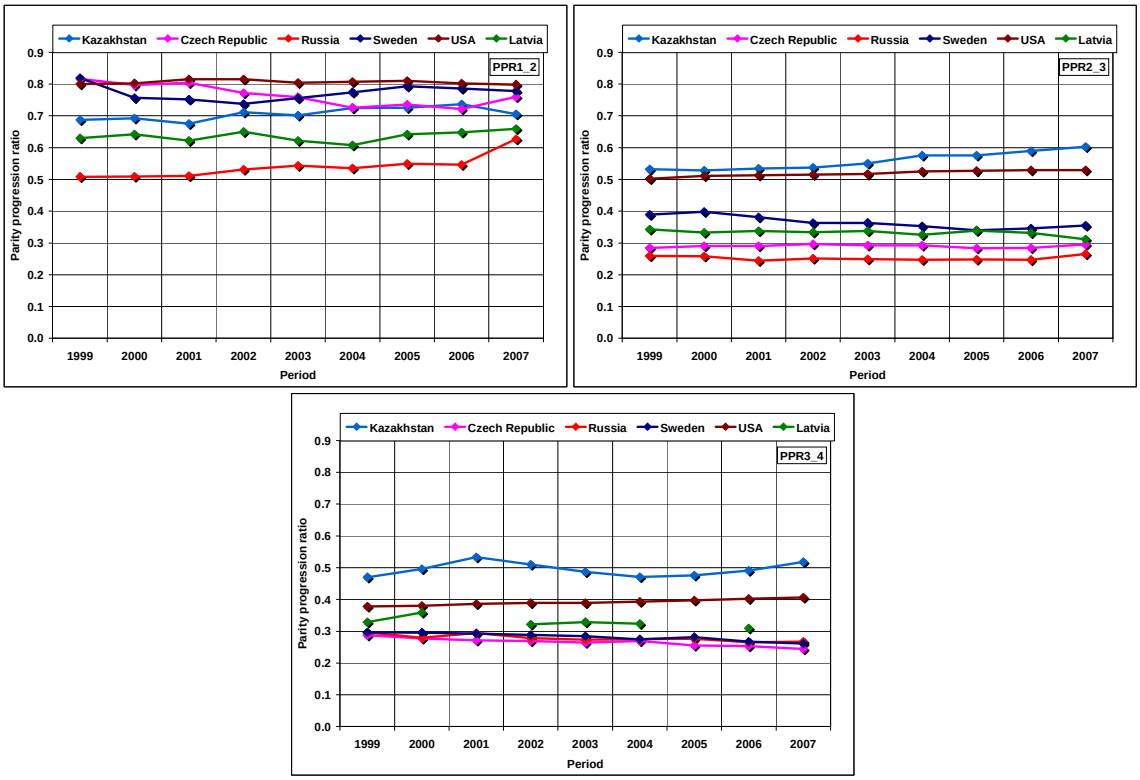
Parity progression ratios

Parity progression ratios revealed a persistent popularity of a two-child family model in the analyzed countries (Figure 16). This pattern was most stable in the USA, where the value of the progression ratio still remained on the level 0,8 during the whole studied period, whereas the progression ratios to the third and fourth births were significantly lower and remained on the level of 0.50 and 0.40 respectively. However the probability of having another birth of US women was one of the highest among the selected countries.

A comparison of recent trends in parity progression ratios revealed several differences, most of which persisted over all the studied period. In the beginning of the 2000's the probability of having 2nd child in the Czech Republic was closer to the level of the USA (0.80) and even above the level of Sweden (0.75). But, later it started to move towards the pattern of other post-socialist countries, where Kazakhstan showed the highest level (above 0.70) among the rest. Latvia experienced some changes of the parity progression ratio development to the second birth during the first half of the studied period and increasing its level during the second part by reaching 0.66 level in 2007. Russian women displayed a fairly stable development of the progression ratio to the second birth towards increasing, whereas the progression rates to the third and fourth remained stable during the whole studied period.

The probability of having 3rd child was widely spread in Kazakhstan and the USA with their parity progression rates roughly over 0.50, while the trend of this in other post-socialist countries was similar and moderately below the level of Sweden (approximately over 0.35). Thus, the long-standing postponement of childbearing among Kazakh women had not affected their ability to have a third child.

Figure 16 – Parity progression ratios for women at parity 1, 2 and 3: selected countries, 1999 – 2007



Source: Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

Note: PPR1_2 (Parity progression ratio) is the probability a_1 of moving from parity 1 to parity 2, PPR2_3 is the probability a_2 of moving from parity 2 to parity 3

A comparison of recent trends in parity progression ratios to the fourth birth was much more interesting. Kazakh women continued to display the highest progression ratio to the fourth birth (approximately 0.50). Whereas in other post-socialist countries the probability declined to the level below 0.30. The sole exception was in Latvia (above 0.30), that displayed some instable development of the trend, but considerably below the level recorded in the USA (0.40). Swedish women also experienced the lowest progression ratio to the fourth birth (below 0.40).

2.3 Development of extramarital live births in selected countries

2.3.1 Trends in extramarital live births

Trends in fertility rates have often been accompanied by changes in the prevailing attitudes towards marriage, family formation and parenthood. In the most analyzed countries the number of parents who were not married at the time of having a birth increased from the past. The vast majority of increase in extramarital live births in the countries of Western Europe was due to births within

cohabitation, whereas in post-socialist countries the increase of children born out-of-wedlock was accompanied by rising in the amount of single mothers.

According to some demographers one of the most explanations for changing marital and non-marital childbearing in the Western Europe is the Second Demographic Transition. Cohabitation as one the basic features of the Second Demographic Transition partially played the role in the increasing amount of extramarital live births. At the same time social support for women without legal partner in the most countries of Western Europe particularly in the Scandinavian countries, allow them to provide their needs independently of partners. As a result childbearing within cohabitating unions has its some advantages.

By the opinion of Bernhardt in contemporary western countries, many choices largely made in the past on the basis of social prescriptions have now become options. This creates a whole new set of risks as well as a higher degree of individual uncertainty. As a result new stages in the life course have emerged, resulting in a 'destandardisation' of family-formation patterns. Cohabitation, and living independently without a partner before moving into a couple relationship both constitute this type of stage. Cohabitation can thus be seen as just one component of many, in a process through which individual behavior is determined less by tradition and institutional arrangements and is more open to individual choice (Bernhardt, 2004).

It has been argued that those couples who live together desire something fundamentally different in a couple relationships than do those who are married. Cohabiting adults may demand more personal autonomy, more gender equity, and greater flexibility; they may have chosen cohabitation in order to avoid a more binding commitment. However, these desires are likely to change over the life course. Cohabiting couples in Sweden tend to marry at a stage in their life course connected to a preference for a stable union. According to Bernhardt this stage is usually reached after less than five years of having lived together and after having become a parent.

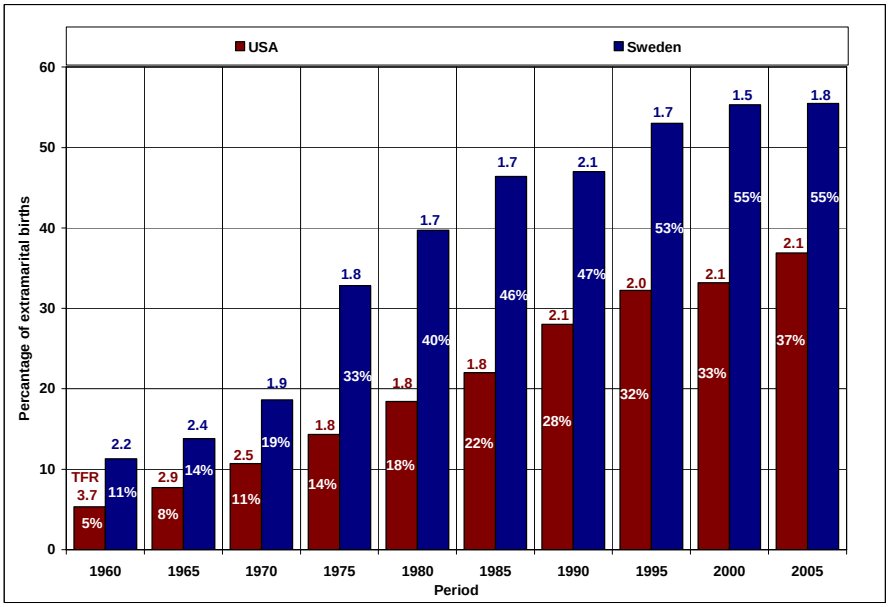
However, in the USA as well as in the most post-socialist countries non-marital childbearing is more associated with a pattern of disadvantage experienced by single mothers and low-income minority populations (particularly in the USA) (Wu and Wolfe, 2001). At the same time by opinion of some researchers women have preferred to be alone instead of having unstable partner.

It seemed that along with the decreasing in the value of total fertility rate the number of live births born out-of-wedlock increased, but recent trends in extramarital live births did not prove this hypothesis (Figure 17).

Live births to unmarried women rose substantially in recent decades. In 1970 the overwhelming majority of US children were born to married couples (Figure 17). In 1990s one in every three US live births occurred outside of marriage, whereas one seconds of all Swedish children born out-of-wedlock. This increase in childbearing outside of marriage – non-marital childbearing – has been under way at least since the 1940s. After very large increases in the 1970s and 1980s, non-marital childbearing rates peaked in the first half of the 1990s.

The increased availability of contraception and abortion made shotgun weddings[18] a thing of the past. Women who were willing to get an induced abortion or who reliably used contraception no longer found it necessary to condition sexual relations on a promise of marriage in the event of pregnancy. Another reason is that women who wanted children, who did not want an abortion for moral or religious reasons, or who were unreliable in their use of contraception found themselves pressured to participate in premarital sexual relations without being able to exact a promise of marriage in case of pregnancy. These women feared, correctly, that if they refused sexual relations, they would risk losing their partners. Sexual activity without commitment was increasingly expected in premarital relationships (Akerlof, 2010).

Figure 17 – Development of extramarital live births in Sweden and the USA



Source: www.eurostat.eu; www.coe.int; www.cdc.gov; www.coe.int
Note: Along with the percentage of extramarital live births the value of TFR in the figure are shown

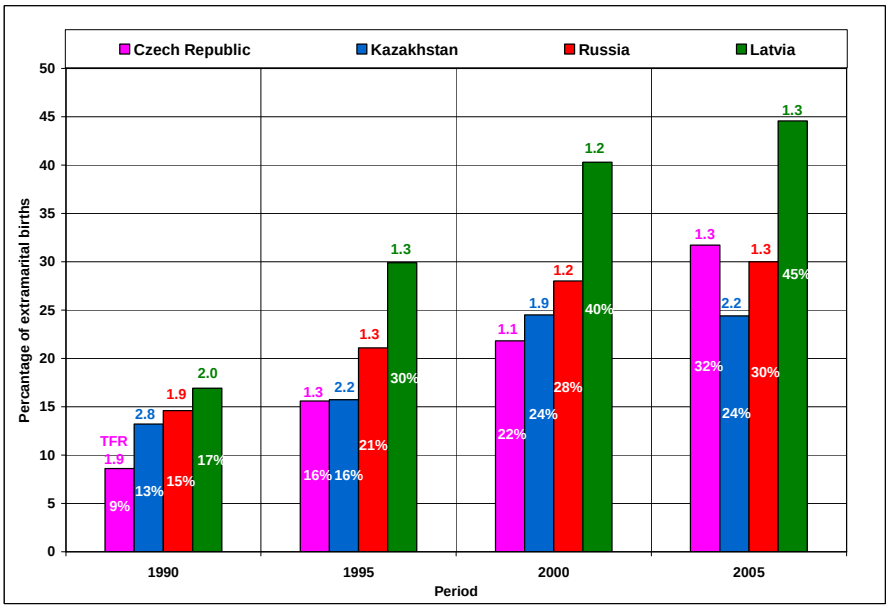
The selected post-socialist countries experienced a remarkable demographic transformation in the past twenty years. On many dimensions of fertility and family formation, many of the post-socialist countries now follow the trends observed in Western Europe: rising age at first marriage and first birth, and high and increasing numbers of extramarital live births.

As shown in Figure 18, the share of extramarital live births increased across the post-socialist countries beginning in the early-to the end-1990s; the highest share was in Latvia (nearly 40 percent of all live births) which rivals the out-of-wedlock birth rates of Scandinavian countries like Sweden (55%). The contribution of extramarital live births to changes in overall fertility varies across countries: in most countries an increase in the share of extramarital live births accounted for the large drop in overall fertility rates in the 1990s due to the fact that the decrease of marital

[18] Shotgun wedding is a wedding forced because of unplanned pregnancy

fertility was not compensated by sufficiently large numbers of extramarital live births (Table 12, 13).

Figure 18: Development of extramarital live births in selected post-socialist countries



Source: www.eurostat.eu, www.data.euro.who.int/hfadb/, www.unicef.org, www.gks.ru

Note: Along with the percentage of extramarital live births the value of TFR in the figure are shown

Most of the changes in the patterns of fertility and family formation described above represent a potential improvement in the welfare of children in post-socialist countries. Later marriage and childbearing may result in parents who are better prepared, financially and otherwise, to raise a family; the increase in the use of modern contraception leads to better timing of childbirth and possibly fewer 'unwanted' children. The increase in out-of-wedlock live births might be seen as a negative trend, but even this may not be highly detrimental if the increase in extramarital live births reflects a shift from registered marriage to cohabitation rather than an increase in single parenthood (Brainerd, 2010).

Table 12 – Difference in total, marital and extramarital live births: USA and Sweden, 1960 - 2005

	USA			Sweden		
	1960	2005	*Difference*	1960	2005	*Difference*
Total live births	4257850	4138349	*-119501*	102219	101346	*-873*
Marital live births	4033550	2611315	*-1422235*	90684	45154	*-45530*
Extramarital live births	224300	1527034	*1302734*	11535	56192	*44657*

Source: UN Demographic Yearbook; www.cdc.gov; www.eurostat.eu

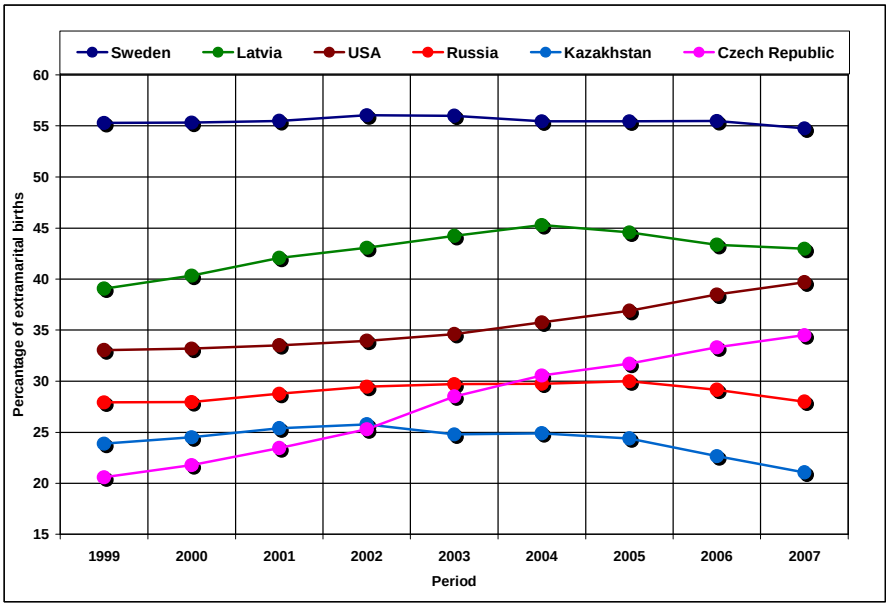
Table 13 – Difference in total, marital and extramarital live births: selected post-socialist countries, 1990 - 2005

	Czech Republic			Kazakhstan			Russian Federation			Latvia		
	1990	2005	*Difference*	1990	2005	*Difference*	1990	2005	*Difference*	1990	2005	*Difference*
Total live birthss	130564	102211	*-28353*	363335	278977	*-84358*	1988858	1457400	*-531458*	37918	21497	*-16421*
Marital live births	119397	69802	*-49595*	315375	210922	*-104453*	1698485	1020318	*-678167*	31517	11916	*-19601*
Extramarital live births	11167	32409	*21242*	47960	68055	*20095*	290373	437082	*146709*	6401	9581	*3180*

Source: UN Demographic Yearbook; www.eurostat.eu; www.transmonee.org

Non-marital childbearing is quite often associated with economic deprivation or with a changing social position. Therefore non-marital childbearing in Northern Europe, particularly in Sweden, signifies a rejection of traditional institutions and increase in independence and autonomy while non-marital childbearing in the US and post-socialist countries is associated with socioeconomic hardship and obstacles to marriage (Perelli-Harris, 2010) However, with the improvement of socio-economic conditions in post-socialist countries the part of the extramarital live births can be due to increasing popularity of cohabited couples.

Figure 19 – Trends in extramarital live births: selected countries, 1999-2007

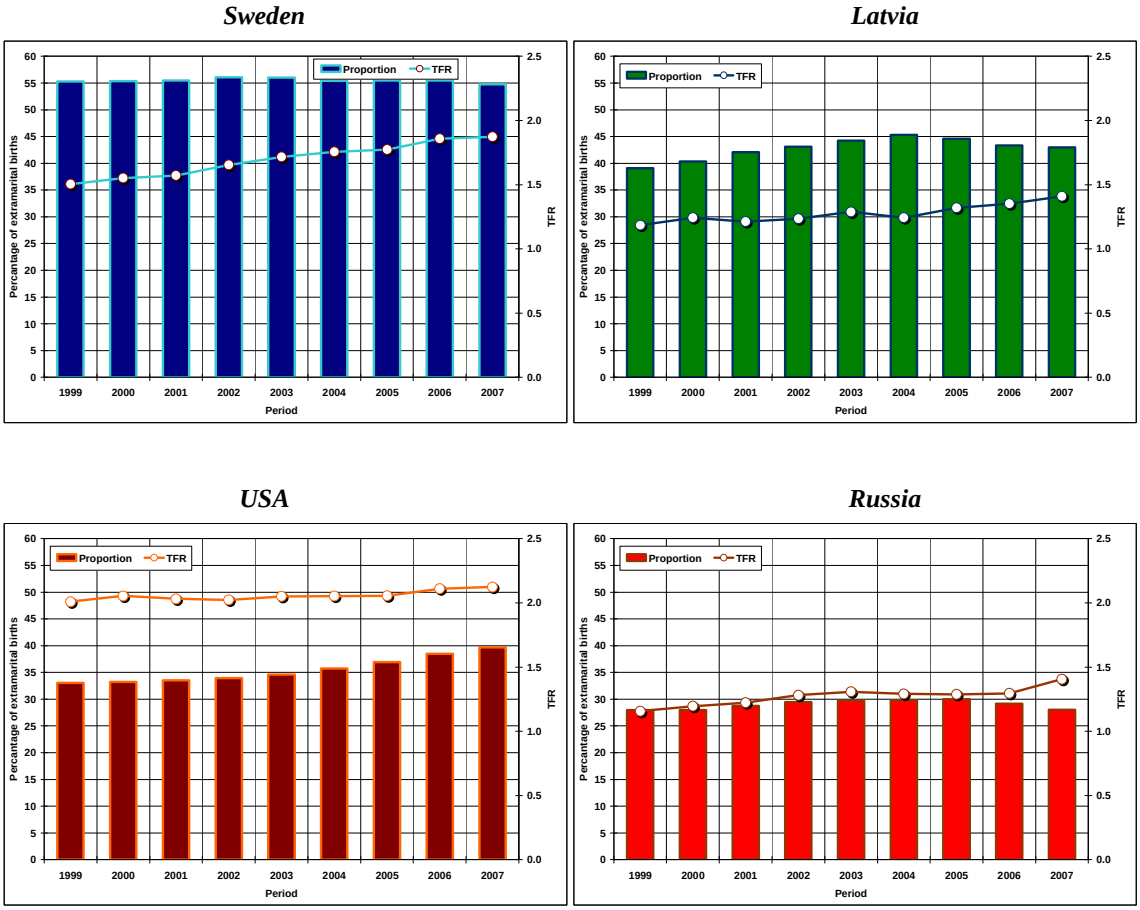


Source: www.humanfertility.org; www.eurostat.eu; Kazakhstan State Statistic Agency: unpublished data

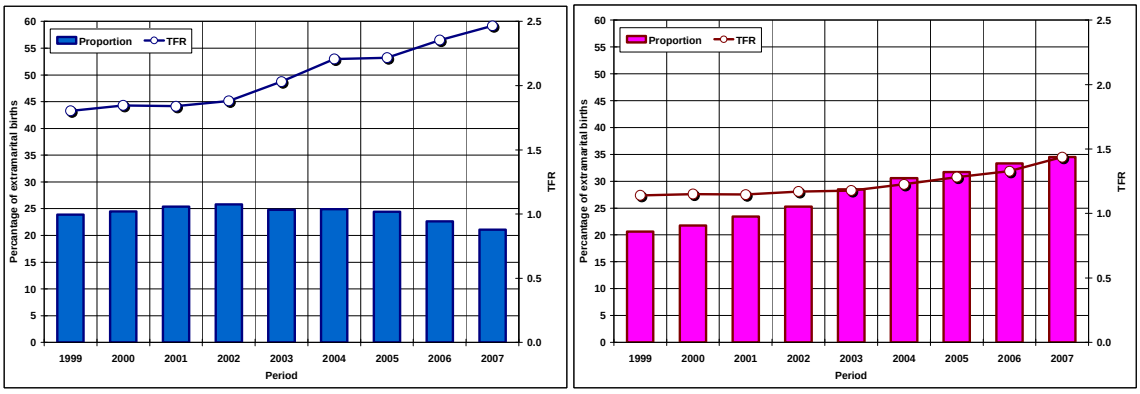
There are large differences across selected countries in the proportion of children born outside of marriage: this proportion varies from 21% (the Czech Republic) to 55% (Sweden) in 1999 and from 21% (Kazakhstan) to 55% (Sweden) in 2007 (Figure 19). From the beginning to the middle of analyzed period the most of selected countries increased the number of parents who were not married at the time of birth of their children. However, very recent trends in extramarital live births diverged. Kazakhstan reduced the proportion of extramarital live births from 24% in 1999 to 21% in 2007 as well as Russia and Latvia which experienced slight decrease from the middle of the analyzed period. At the same time the percentage of live births born out-of-wedlock in Russia remained at the same level in 2007 (28%) as it was in 1999 (28%). Whereas the number of children

born outside of marriage in US and the Czech Republic increased from 33% and 21% in 1999 to 40% and 34% in 2007 respectively. During the studied period Sweden displayed stagnation in the development of extramarital live births.

Figure 20 – Relationship between the share of extramarital live births and total fertility rate in selected countries: 1999-2007



Kazakhstan ***Czech Republic***



Source: www.eurostat.eu; www.humanfertility.org; Kazakhstan State Statistic Agency: unpublished data

Figure 20 illustrates the relationship between the share of live births outside marriage and the total fertility rate. As it was previously mentioned the trends in total fertility rate in all selected countries were developed towards increasing. However the trends occurred in the past were much different compared to the trends of the analyzed period. When comparing the levels of TFR and the percentages of extramarital live births within the same double scaling (one for TFR, another for the percentage of extramarital live births), three types of developments can be identify (Figure 20): a) the percentage of extramarital live births is higher than TFR (Sweden, Latvia); b) the percentage of extramarital live births is lower than TFR (USA, Kazakhstan); c) the percentage of extramarital live births is relatively the same as TFR (Russia, Czech Republic). Therefore, we can suggest a new country typology which is not based on absolute levels but on a relationship between a fertility level and an intensity of extramarital childbearing. Sweden and Latvia are countries with relatively high extramarital childbearing while USA and Kazakhstan represent lower intensity of extramarital childbearing, finally Russia and the Czech Republic can be labeled as countries with adequate level of extramarital childbearing.

Sweden as a forerunner in the share of extramarital fertility increased that value gradually, whereas the Czech Republic has experienced an increase in the share of extramarital live births relatively in a short period.

Moreover, the increase in the value of TFR in Sweden, Russia and Kazakhstan occurred irrespectively on the development in the share of extramarital live births. Sweden displayed the increase in the value of total fertility rate from 1.5 in 1999 to 1.9 in 2007, whereas the share of live births outside marriage did not change considerably, which was about 55% during the studied period. At the same time, the value of total fertility rate in Russia increased from 1.2 in 1999 to 1.4 in 2007. However the share of extramarital live births in Russia developed with some changes, where the highest value observed in 2005 (30%), but in the end of the studied period (2007) it was at the same level (28%) as it was in the beginning of the period (1999). Kazakhstan was the sole country among all selected countries that dropped its share of live births outside marriage from 24% in 1999 to 21% in 2007, while the value of total fertility rate increased from 1.8 to 2.5 in the same period.

2.3.2 Decomposition in the difference of TFR

The change in the value of TFR can be related to the change in age structure of women by marital status and to the change in marital or non-marital fertility. The decomposition techniques will show the impact of changing in age structure of women by marital status, marital or non-marital fertility.

The decomposition method (p.32) used to identify the difference in the value of total fertility rate between 1970 and 2005 in Sweden, 1985 and 2005 in the Czech Republic gave the following findings (Table 14). Fertility decline in Europe started from the Scandinavian countries. In our case Sweden represents the Scandinavian country as well as western country, while the Czech Republic represents the post-socialist country. Taking into consideration that decline in the value of TFR in Sweden started earlier than in the Czech Republic, the proper period was taken.

In 1970 the Swedish level of total fertility rate was 1.9 where the share of extramarital live births accounted less than 20%. However in 2005 the children born out-of-wedlock were more than 50% of all live births, whereas the value of total fertility rate accounted 1.8. The value of TFR between 1970 and 2005 in Sweden declined by -0.17. The change in the value of TFR was predominantly due to the change in age structure of women by marital status. The change in marital structure (-0.81) was moderated by the increase in intensity of marital (+0.46) and non-marital (+0.18) fertility. If the age structure of women by marital status observed in 1970 would remain in 2005 the increase in the value of TFR in 2005 would be 0.64 (= 0.46+0.18) (Table 14).

The Czech Republic before the collapse of state socialist regime experienced the total fertility rate at the level of 1.9 in 1985 with more than 7% of extramarital live births, while after the collapse of socialism and twenty years as an independent state in 2005 the total fertility rate was 1.3 and share of children born out-of-wedlock reached more than 30%.The decrease in the value of TFR was more pronounced here than in Sweden and amounted to -0.66. The drop in TFR was primarily due to the change in age structure of women by marital status (-0.95). Similarly to Sweden, if the structure of women by marital status observed in 1985 would remain in 2005 the value of TFR would be increased by 0.28 (= 0.19+0.09).

Table 14 – Decomposition of total fertility rate in Sweden (between 1970 and 2005) and the Czech Republic (1985 and 2005)

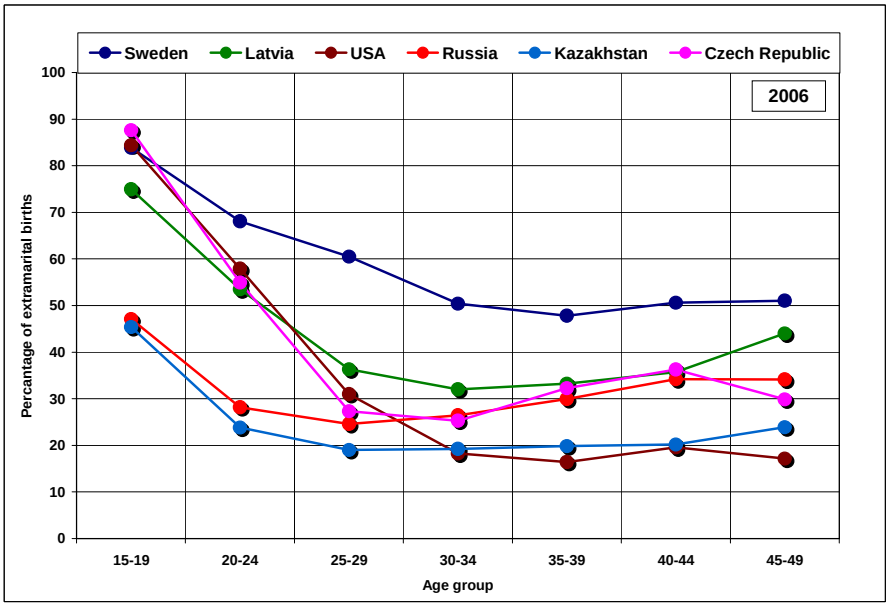
	Sweden (1970 - 2005)		Czech Republic (1985 - 2005)	
	Difference	in %	Difference	in %
Total effect of structure according the marital status	-0.81	477	-0.95	143
Total effect of marital fertility	0.46	-269	0.19	-29
Total effect of non-marital fertility	0.18	-108	0.09	-14
Total	-0.17	100	-0.66	100

Source: Author's calculations based on data www.ssd.scb.se, www.szso.cz

2.3.3 Age profiles of extramarital childbearing

Non-marital live births vary considerably by age. Usually, the high proportion of extramarital live births is among young women.

Figure 21 – Proportion of extramarital live births in total live births according to age groups: selected countries, 2006



Source: www.humanfertility.org; www.eurostat.eu; Kazakhstan State Statistic Agency: unpublished data

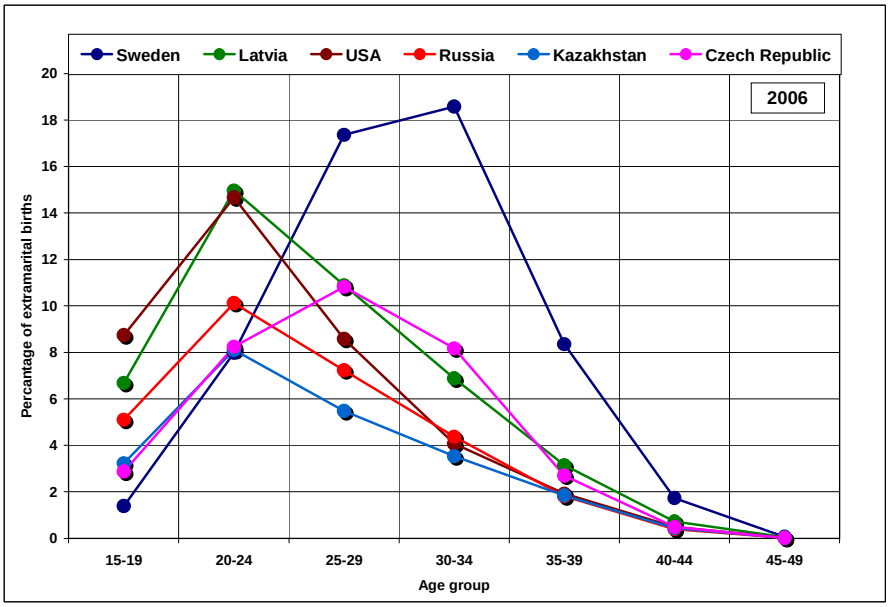
However Figure 21 features the share of extramarital live births in total live births according to age groups. Women aged 15 – 19 displayed the highest share of live births outside marriage in all selected countries. The share of live births outside marriage among women in the age group 15 – 19 was more than 70% of all live births in the most of selected countries. However Russian and Kazakh women in this age group experienced that share less than 50%. As in older ages women as considerably the proportion of live births outside marriage decreased. On the other hand, as women getting older the share of extramarital live births in that ages slightly increased. Women from all selected countries displayed the higher share of live births outside marriage in the age group 40 – 44 than in the 35 – 39 ages. Whereas the share of extramarital live births among Kazakh women in the groups 35 – 39 and 40 – 44 was at the same level (20%). However women aged 45 – 49 in Latvia and Kazakhstan experienced the higher share of live births outside marriage (44% and 24% respectively) than women in younger ages 40 – 44 (36% and 20% respectively). Whereas Sweden and Russia displayed the same level in both age groups (51% and 34% respectively).

As a consequence there are three situations in older ages: 2 countries – slightly increased (Latvia and Kazakhstan); 2 countries with stagnation (Sweden and Russia); 2 countries – slightly decreased (Czech Republic and USA).

According to Figure 22 in 2006 the highest proportion of extramarital live births in post-socialist countries was observed in the age group 20 – 24, where it varied from 8% (Kazakhstan, Sweden and the Czech Republic) to 15% (Latvia). Their counterparts in the USA experienced the same pattern with 15% of extramarital live births in this age group. The sole exception regarding

the maximum percentage of extramarital live births among post-socialist countries was the Czech Republic that displayed the highest share of extramarital live births among women aged 25 – 29 (11%). At the same time Swedish women aged 25 – 29 and 30 – 34 experienced the highest share of extramarital live births (17% and 19% respectively).

Figure 22 – Relative age distribution of extramarital live births: selected countries, 2006



Source: www.humanfertility.org; www.eurostat.eu; Kazakhstan State Statistic Agency: unpublished data

As Table 15 shows in 2006 the mean age of unmarried mothers across the countries at the time of their child birth varied from 25 to 30 years old. The mean age of mothers among married varied from 28 to 31 years old. The youngest mothers among selected countries who were out-of-wedlock at the time of their child birth were among US and Russian women (24.6 and 25.9). Whereas the mean age of married mothers at childbirth in those countries were 28.9 and 29.9 respectively. Swedish and Czech unmarried women displayed the older mean age (29.9 and 27.3 respectively), while the mean age of married mothers were 31.4 and 29.7. Kazakh mothers were in the middle among all mothers in selected countries. The mean age of unmarried mothers was 26.9, married – 28.2.

Table 15 – Mean age of mothers at childbearing according to marital status in 2006[19]

	Sweden	Czech Republic	Kazakstan	Latvia	Russia	USA
Unmarried	29.9	27.3	26.9	26.3	25.9	24.6
Married	31.4	29.7	28.2	28.9	26.8	29.9

Source: Author's calculations based on data from www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

[19] Computed from the distribution of rates of the 2nd kind

Finally, according to Carmen Solomon-Fears specialist in Social policy domestic social policy division in the USA factors that have contributed to an unprecedented level of non-marital childbearing include the followings:

an increase in the mean age of first marriage;
delays in childbearing of married couples;
increased marital dissolution;
an increase in the number of cohabiting couples;
increased sexual activity outside of marriage;
participation in risky behaviors that often lead to sex;
improper use of contraceptive methods;
lack of marriageable partners.

In the most post-socialist countries the increase in the percentage of live births out-of-wedlock resulted not so much from changes in the conception behavior neither of cohabiters, nor from changes in union formation behavior after conception, as from the increasing proportion of women who cohabit before conception. More women are now exposed to the risk of conceiving within cohabitation, but once they conceive, they are as just likely as before to marry. Thus, the increase in births within cohabitation is part and parcel of the "retreat" from marriage in the most post-socialist countries (Gerber and Berman forthcoming, Hoem et al 2009). The relationship between education and non-marital childbearing has not changed over time: the least educated women have the highest birth rates as cohabiting or single mothers, due to their rates of marriage prior to conception and their lower probabilities of legitimating a non-marital conception. Thus, the least educated women are at the greatest disadvantage when it comes to marriage after conception. This is not because they are rejecting the institution of marriage in favor of autonomy, but it could be rather because they or their partners are "unsuitable" for marriage, either due to lack of employment opportunities or other unfavorable characteristics (Edin and Kefalis 2005; Gibson-Davis et al 2005). The collapse of the state socialist regime in the post-socialist countries, which led to increases in economic instability, poverty, and anomie would have increased the number of women in this situation (Perelli-Harris, 2010).

The pattern of disadvantage implies a divergence in family formation strategies based on socio-economic status. Marriage remains an indicator of the greater opportunities and stability associated with higher education. This pattern seems to have been exacerbated by the economic turmoil during transition of post-socialist countries to a market economy. Now, as inequality increases in Russia, family behaviors will most likely continue to diverge along two trajectories similar to those McLanahan (2004) described in the U.S.: "One trajectory – the one associated with delays in childbearing and increases in maternal employment – reflects gains in resources, while the other – the one associated with divorce and non-marital childbearing – reflects losses" (Perelli-Harris, 2010).

2.4 Current country grouping based on main fertility parameters

According to the analysis of fertility development in selected western and the post-socialist countries is obviously seen that each country experienced its own type of fertility trend and currently show country specific pattern. However, in 2005 the difference in indicators of period fertility in selected countries was not such as significant as it observed in the beginning (Table 16).

Table 16 – Main indicators of period fertility: selected countries, 2005

Countries	TFR	Proportion of childless women (%)	Extramarital live births (%)	Mean age at 1st childbirth
Kazakhstan	2.2	11	24	24.4
USA	2.1	20	37	25.7
Sweden	1.8	19	55	28.7
Czech Republic	1.3	38	32	26.6
Latvia	1.3	33	45	24.9
Russia	1.3	27	30	24.1

Source: www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

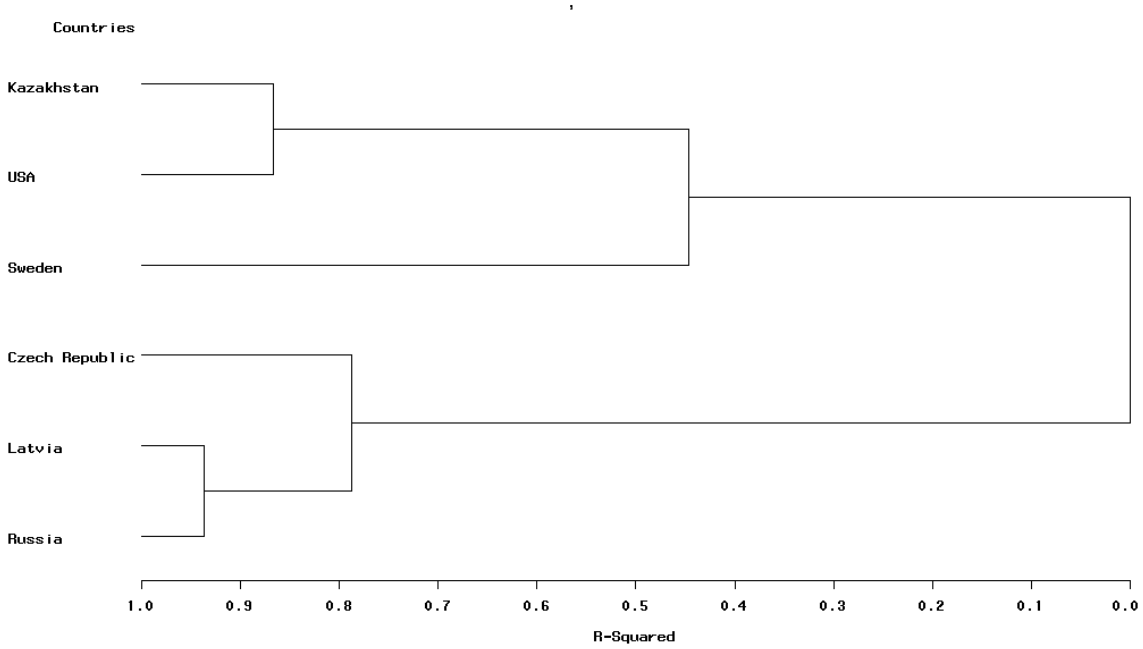
A hierarchical cluster analysis (based on Euclidean distance and Ward grouping) performed on main indicators of period fertility (listed in the table, transformed in z-scores) in selected countries clearly illustrates how the countries are currently divided (Figure 23).

According to Figure 23 the main convergence in period fertility indicators is observed among Kazakh and US women, as well as among Czech, Latvian and Russian women. While fertility patterns of Swedish women was more different from the other selected countries. Thus, there are two groups and one country apart.

First group is represented by Kazakhstan and the USA; the Czech Republic, Latvia and Russia represent the second group. Sweden is an apart country that represents a unique type of fertility development.

The similarities in period fertility indicators among Kazakh and US women observed in 2005 are due to the trends in fertility patterns from the World War II in the USA and from the collapse of socialist regime in Kazakhstan. Kazakh women experienced high fertility level before the collapse of socialist regime. During the transformation period occurred in the 1990s, it dropped the value of total fertility level below replacement level. However, along with the improvement in socio-economic conditions for childbearing in the country fertility level of Kazakh women increased significantly reaching the above replacement level of TFR. While US women experienced the first signs of the Second Demographic Transition earlier than Kazakh women. The value in total fertility rate in the USA slightly increased since the mid-1990s. However, in spite of difference in socio-economic conditions the indicators on period fertility among Kazakh and US women are much similar. This is mostly due to the high level in total fertility rate and the similarities in fertility age profile of Kazakh and US women as well as in multiethnic composition of the population.

Figure 23 – Dendograms resulting from main indicators of period fertility in selected countries, 2005



Source: www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

The main convergence of indicators in period fertility in the second group represented by post-socialist countries of the Czech Republic, Latvia and Russia is a matter of trends in fertility development from the collapse of socialist regime. The socio-economic factors including economic crisis and later changes in the value of cultural norms occurred in most countries of post-socialist regime impinged on childbearing decisions. However, improvement in socio-economic conditions did not significantly increase fertility level of women in these countries. The high proportion of childless women, increased the mean age at 1st childbirth and therefore the low fertility level of TFR are the main indicators that combined these countries into one group.

At the same time, Sweden represents a unique type of fertility development. Swedish society is among the first that experienced the first signs of the Second Demographic Transition. However, decline in fertility level after the baby-boom period was replaced by slight increase in the value of TFR in the 1990s. Modern family policy in Sweden and the egalitarian form in child care allowed to couples to give a more births compared with the most European countries including the Eastern and Central European post-socialist countries

Up to now we observed the differences in indicators of period fertility among two groups and one country apart. These differences are due to the various types of fertility development in selected countries. Table 17 (a, b) displays how the average values of indicators in period fertility differed by first and second group. The differences in the values of TFR and the proportion of childless women were much significant than in the proportion of extramarital live births and the mean age at 1st child birth.

Table 17 – Average values in indicators of period fertility: selected countries, 2005

a) First group

Countries	Average			
	TFR	Proportion of childless women (%)	Extramarital live births (%)	Mean age at 1st childbirth
Kazakhstan **USA**	2.1	15	31	25.0

b) Second group

Countries	Average			
	TFR	Proportion of childless women (%)	Extramarital live births (%)	Mean age at 1st childbirth
Czech Republic **Latvia** **Russia**	1.3	33	36	25.2

c) One country apart

Countries	TFR	Proportion of childless women (%)	Extramarital live births (%)	Mean age at 1st childbirth
Sweden	1.8	19	55	28.7

Source: www.humanfertility.org, www.eurostat.eu, Kazakhstan State Statistic Agency: unpublished data

Finally, selected countries represent different fertility patterns. However by 2005, two groups of countries were combined by their similarities in the indicators of period fertility and one country was defined as a unique. As a result, fertility patterns in selected countries analyzed in the research represent the different types of fertility behavior among two groups of countries and one country apart.

CONCLUSION

Each of selected countries has its own distinctive history, culture, and contemporary economic, political and social circumstances impacted on fertility development. The western countries of the USA and Sweden as a the most developed countries experienced the Second Demographic Transition from high to low levels of fertility earlier than the post-socialist countries. Over the past quarter century massive changes in fertility behavior have occurred in western developed countries of Sweden and the US reaching the level of TFR below replacement level. These changes in fertility patterns have been accompanied by changes in socio-economic conditions and cultural values in the society. Thus following the patterns of demographic and social characteristics of the Second Demographic Transition presented by Lesthaeghe. The post-socialist countries are characterized by the common economic reforms shifted economies from the state-administered to market-base systems experienced severe economic crisis in the immediate aftermath of reforms, though the duration and severity of these crises varied. Political reforms eliminated one-party rule and strict limitations on civil liberties, implementing in their place some form of democracy and protections of individual freedoms, though elements of authoritarian control remain present (Gerber, 2009). With the end of rather extensive restrictions on the capacity to free exchange cultural artifacts, ideas and images, the societies of the post-socialist countries all opened up. As a consequence all post-socialist countries experienced a common set of dramatic, rapid, and unprecedented changes in demographic development, especially in fertility patterns.

All countries of selected post-socialist countries displayed substantial declines in their values of TFR during the 1990s. The decline was steepest even in Kazakhstan with initially higher fertility rates observed before the collapse of state socialist regime. The level of TFR in post-socialist countries stabilized with the improvement of economic and financial characteristics of the country. Moreover, post-socialist countries increased their values of TFR in recent years of analyzed period as well as the US and Sweden.

Fertility decline observed in selected countries can reflect delays in childbearing. The mean age at first birth compared with the recent decade increased in all selected countries by different speed. High mean age at first birth was peculiarity of western countries. However due to socio-economic transformation of post socialist countries this pattern occurred even there. However, early age at childbearing was on of the most distinctive features of Eastern European reproductive

behavior. At the same time due to the shift towards later childbearing, fertility decline did not affect all age groups of equally (Sobotka, 2002).

According to the results of coefficient correlation method used to identify the dependency of the value of TFR on ratio the correlation between the variable of Ratio (ASFR(-29)/ASFR(30+)) and total fertility rate have been weakening year to year in analyzed period. At the same time, the decomposition method used for Sweden and the Czech Republic found the high effect of changing in age structure of women by marital status on changing overall fertility in those countries. I.e. the change in age structure of women and their marital status highly impacted on development of the value of TFR.

During the past few decades profound changes have taken place in selected countries. The role of the traditional family has become weaker and new living arrangements have gained importance. Behind these demographic trends especially in western societies have been changes in behavior and attitudes, which might be characterized as a declining motivation for parenthood and a growing search for individual status (Keilman, 1987).

Along with the improvement of socio-economic conditions the utility of children is low, i.e. the value of children has experienced transformation towards individual interests and motivations (education, career growth and etc.). Average size of the families in selected countries dropped from long perspective. However, the number of children in the families during the analyzed period relatively increased. At the same time the assumption on utility of children has become less presented above fails to explain why in large families (with more than 3 children) borne such amount of children under circumstances of low economic utility (e.g., in high-income families). In our case western developed countries of the USA and Sweden as well as former Soviet country of Kazakhstan displayed the higher share of large families than the other post-socialist countries. Thus, not only economic utility of children does play an important role, but also psychological and social values do[20].

Another striking development in the post-socialist countries as well as in western countries over the past decades is the sharp rise of extramarital live births as a percentage of total live births. The sharp increase in children born out-of-wedlock started in western countries after the baby-boom period. Cohabitation played an important role in increasing the number of non-marital live births, it is much spread in Sweden. However, in the USA as well as in selected post-socialist countries the increase in the percentage of live births born out-of-wedlock resulted from childbearing of single mothers. Women in those countries preferred to stay alone instead to have unsuitable (non stable) partner. On the other hand, the popularity of cohabitation among US and post-socialist countries young people has grown dramatically in recent decades. Today, even children born outside of marriage are important for the nations. Therefore, to support single

[20] Psychological values referred to the happiness, joy, and companionship or to the discomfort and stress which parents expect to experience with having a child. Social values referred to the expected social advantages or disadvantages of having children (e.g., social approval and social status when a married couple has a child; continuation of the family line as in the case of having a son as in patrilineal societies) (Sam, 2001)

mothers or pregnant women without official partner on behalf of government are crucial for further increasing and stabilizing fertility rate in the countries with low level of fertility development.

That is why the measures have taken in selected countries for the women giving a birth and families with children are aimed to manage the demographic changes observed today. Each of selected countries presented a unique way of development of its family policy. However they have common similarities and dissimilarities. According to Gauthier groups of country distinguished by development of family policy, we assume that all selected post-socialist countries belong to pro-family but non-interventionist model: for which responsibility to support families is taken by government only for families in need. On the other hand these countries are improving the social and financial support for the families with children. Except, Latvia that cut financial budget to the social needs due to the world economic crisis in the end of 2000s, the Republic of Kazakhstan, the Czech Republic and Russian Federation might be partially related to pro-family/pro-natalist model. The USA is more characterized as pro-traditional model: for which the preservation of the family is the main concern where Governments partly endorse the responsibility of supporting families. However, Swedish family policy is related to pro-egalitarian model: for which the promotion of greater equality between men and women is the main objective. In the countries with such model governments take full responsibility in the support of families, especially working parents. This model stands in sharp contrast with the previous one.

Families in selected countries are changing and because of this family policy concerns change. Encouraging and stimulating women to give a birth by social and financial support are important. Additionally, the government and society have to advocate and popularize the traditional values concerning families and children importance in their life and country's development. If any measures the governments take than the demographic changes including fertility development might be affected negatively very much on further development of the nation.

The cluster analysis has shown that selected countries displayed similarities and dissimilarities in period fertility indicators in 2005. As a result Kazakhstan and the USA are combined into one group (first group), while the Czech Republic, Latvia and Russia defined as the second group of countries and only Sweden – as a country apart.

Despite of different socio-economic background, Kazakh and US women experienced very similar period fertility indicators in 2005. The representatives of the second group the Czech Republic, Latvia and Russia shared the same history after the collapse of state socialist regime in the countries. In spite the fact, that the Czech Republic experienced the features of the first demographic transition (as well as most western counties) earlier than Latvia and Russia, it displayed very similar period fertility indicators with these post-socialist countries. Sweden as a country apart represents a unique type in the patterns of period fertility indicators that displayed the features of the Second Demographic Transition among the firsts in Europe.

Finally, according to the results, fertility patterns occurred in selected countries are comparable with each other. Moreover, it shows that fertility behavior could be similar despite the different background in socio-economic conditions and demographic development.

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